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AN ADDITIONAL FEATURE OF THE "ELEMENTARY SCHOOL
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For a number of years the United States Office of Education has been publishing a quarterly bulletin bearing the title *Record of Current Educational Publications*. These bulletins constitute an annotated bibliography on a great variety of educational topics and have served the very useful purpose of keeping students of education informed with respect to the current literature in the field. Unfortunately, economy measures have forced the Office of Education to suspend the publication of these particular bulletins. In view of the very distinct need for the kind of service which these bulletins have provided, the *Elementary School Journal* and the *School Review*, beginning with the January issues, will publish each month an annual annotated bibliography on some significant phase of education.

The plan of organization will follow, with certain modifications, the plan adopted in the *Record of Current Educational Publications*. References will be selected and annotated by leaders in the fields represented. Each journal will select the topics which naturally appeal most directly to the interests of its readers. There will be, however, no overlapping of bibliographical information. Thus, there

will appear in a full year's issue of the two journals, taken together, twenty annual annotated bibliographies on twenty significant phases of education. It should be pointed out that this bibliographical service is simply a new feature of both journals; all other features will be continued as formerly. A complete announcement of the topics and the collaborators will appear in a later issue.

AN EXPERIMENT IN ADULT LEARNING

The idea that the years of childhood and youth should be devoted to formal education and that the middle and mature years should be devoted to a more or less fixed routine has given place to a broader conception of education, one which regards life as a continuous process of learning and of adjustment to new conditions. Within the past decade or so the adult-education movement in this country has assumed proportions which are little short of startling. Its forms are many and varied: correspondence courses, labor colleges, courses for college alumni, university extension courses, instruction provided by business corporations for their employees, and special classes and opportunity schools for adults of limited education.

The attempt to provide adequate educational opportunities for adult groups in our population gives rise to a number of problems which should be subjected to scientific investigation. One such investigation conducted during the summer of 1931 undertook to determine critically and objectively, within certain limits, "first, the progress of adults of limited education when favorable conditions for learning are provided and, second, the limitations of the instruction given for students of different levels of capacity and varying amounts of achievement in the fundamental tools of learning." The experiment was sponsored by the State Department of Education of South Carolina, the American Association for Adult Education, and the Carnegie Corporation of New York. It was carried out in the opportunity schools of South Carolina under the direction of William S. Gray, of the University of Chicago; Wil Lou Gray, of the State Department of Education of South Carolina; and J. Warren Tilton, of Yale University. Three groups of students were selected for the experiment: (1) an experimental group made up of students who had not attained functional literacy, (2) an intermedi-

ate group composed of students who had just attained literacy, and (3) an advanced group composed of students whose median school achievement was that of the seventh grade. An opportunity school for white adults was conducted at Clemson State Agricultural College for one month, and a similar school was conducted for colored students at Seneca Junior College. The students at the latter institution were confined to the experimental group.

The results of the study have recently been published in a report entitled *The Opportunity Schools of South Carolina*, which may be secured from the American Association for Adult Education, 60 East Forty-second Street, New York City. The following paragraphs are quoted from the summary of the report.

The facts presented in this study suggest certain tentative conclusions and significant problems for further investigation. Important findings and conclusions will be presented briefly. Problems for additional study are reported in conjunction with the findings that suggest them.

The chief results of the educational opportunities provided merit first consideration. During the four-week term the average progress made in reading, writing, spelling, and arithmetic by the students in the Clemson experimental group was equivalent to the progress normally made by primary-grade children in 3.0 school months. The average progress of students in the Seneca experimental group was equivalent to that made by primary-grade children in 3.4 months. Some students made much greater progress than these averages suggest, and some made far less. From many points of view the average gains are gratifying. When the fact is considered, however, that we are comparing the progress of adults with that of young children, the gains reported are not altogether satisfactory. Assuming for the moment that the students studied continue to progress during subsequent terms at the same rate, from eight to ten terms will be required on the average for them to attain functioning literacy. When both average progress and individual variations in progress are considered, it becomes evident that high achievement in the subjects which make for literacy can be attained only at the sacrifice of great time and effort on the part of many adults who today are not literate.

An important question is suggested by the foregoing conclusions. Is it desirable to give less emphasis to instruction in reading, spelling, arithmetic, and writing in the case of adults who learn very slowly, and greater emphasis to discussions of practical problems and relationships of daily life and to the enrichment of experience through oral and visual means than were provided in this experiment? Before this question can be answered with any degree of finality, several steps should be taken. First, an interesting, informing series of units relating to significant phases of daily living should be developed following an

intensive study of the interests and needs of the types of students to which this discussion relates. Second, careful records should be kept of the progress, difficulties, and needs of students varying widely in capacity, age, and previous schooling when a carefully planned program of instruction is provided that promotes increased efficiency and happiness in daily living as well as literacy. Third, studies should be made to determine the value and limitations of both types of training on the habits, activities, motives, appreciation and achievements of adults during a year subsequent to training. On the basis of the facts secured it should be possible to develop courses of instruction adapted to the practical needs of illiterate adults who differ widely in learning capacity.

The average progress of the students of the Clemson intermediate group, in reading, writing, spelling, and arithmetic was equivalent to that normally made by grade-school pupils in 7.5 months. It is obvious that many adult students who have just attained literacy can achieve in from three to four terms in an opportunity school the norms usually reached by pupils completing the elementary school. Such results are very encouraging. Opportunity should, therefore, be provided for students who wish such training to secure it. The fact that the students studied varied widely in the amount of progress which they made indicates that great care and wisdom should be exercised in advising students with respect to their work during a given term. Furthermore, provision should be made for individual students to advance in the three R's as rapidly as their capacity and energy will permit. The distinct difference in the progress of the two sections which at the beginning of the term made similar scores on the achievement tests but significantly different scores on the mental tests emphasizes the importance of the foregoing recommendations.

The instruction given to the students of the intermediate group was limited largely to reading, writing, spelling, and arithmetic. This plan was adopted largely through necessity. Unfortunately, very little content material has been provided for literate adults of limited education. Adult education workers have found it necessary, therefore, either to limit instruction largely to the subjects mentioned or to make use of books prepared for grade school children which fail to supply the information and help which adults need. Before literate adults of limited education can receive the type of instruction that is essential to increased efficiency and happiness, appropriate teaching materials must be developed. These materials should relate to contemporary social problems, the elements of good citizenship, important scientific facts which aid in understanding the machine age in which we live, the recreational arts, including reading, music, painting, sculpture, and wholesome forms of recreation, health, and home-making. The materials developed should be based directly on adult needs and should be prepared in sufficiently simple form that they may be read with ease and intelligence by students of limited reading achievement. Until such materials are provided, adult education at the level with which we are here concerned must remain either very limited and formal in scope or inappropriate in content.

The average progress of the Clemson advanced group in reading, writing,

spelling, and arithmetic was equal to that made normally by upper-grade pupils in 9.5 months. This fact shows clearly that minor deficiencies in these fundamental subjects can be readily eliminated. The progress made in the other subjects included in the Stanford Achievement Test reveals equally promising possibilities of rapid progress in the content subjects. The chief difficulty which arises at this level relates to the types of elective courses which should be provided in order to meet the diverse interests and needs of students who have completed the general training provided at the intermediate level. In this connection, studies should be made of the interests and needs of students in given communities. Upon the basis of the findings, valuable courses should be developed. A few examples of this type would serve a very valuable purpose in stimulating similar studies in various sections of the country.

The informal training provided at the two opportunity schools was as significant as the formal instruction, if not more significant in many cases. It related to the activities of housekeeping and of eating and serving meals, to physical training and recreation, to good citizenship, to the cultural influences in life, and to religion. No objective measures were secured of the changes in the habits, attitudes, interests, and ideals of the students as a result of such training. It was obvious to everyone, however, who observed the students during the course of the term that their participation in the amenities of daily life was notably improved, that their interests were broadened, and that their experiences were greatly enriched. It was very interesting and gratifying to note the stimulating effect on many students of the new experiences provided and the broader interests cultivated. In order to accomplish such ends in an opportunity school a rich program of informal activities is essential. Detailed studies are needed, however, of the types of experiences which carry over most effectively into life outside of school and produce desirable changes in attitudes, habits, and interests.

The various types of data secured during the course of the investigation were treated statistically to determine significant relationships and for such bearing as they might have upon the psychology of adult learning. Age was found to be positively correlated with size of vocabulary and with a large measure of deliberation. It was found to be negatively correlated with speed and with the amount learned during the month. In view of these facts, it should not be said offhand either that age is positively correlated with intelligence or that it is negatively correlated with intelligence. If a test measures the amount learned, the correlation is negative; similarly, if the test places premium upon speed, the correlation between intelligence and age is negative. But if the test measures deliberation, or if it is largely a vocabulary test, then age is positively correlated with intelligence. These facts suggest that under conditions similar to those that prevailed in this study a speed test may afford the basis for predicting the amount that students might learn even though they score higher on a test that measures deliberation, or vocabulary, or both. In other words, the test which favors age is not necessarily the best test to use for predicting how much the adults will learn in a school situation like the one described.

The implications of these facts for teaching are not clear. It is not known to what extent the lowered speed of older adults is due to decreased capacity or to habit. Nor is it known to what extent older adults learn less because they are slower and more deliberate. It is quite possible that in types of learning which involve a large measure of deliberation, the amount learned is positively correlated with age. Perhaps the methods of teaching now used are patterned too closely after methods used with children, and that other methods would be more suitable for adults. Fortunately, the reduction with age of the amount learned is small and relatively insignificant. All four groups tested made more progress during the month than they would have made as children in the corresponding grades. These statements should not be interpreted as justifying or even excusing the neglect of a state to provide adequate educational opportunities for its youth. Adult agencies cannot make up easily or in any spectacular degree for what the public-school system should do for the youth of the land.

In summary, the facts which have been presented in the study show clearly that agencies of adult education may render invaluable service to adults of limited education. Because of the very nature of the training provided, an opportunity school of the type described in this report has unique possibilities of service. Such schools should be far more widely established. They should complement the public school and be supported by public funds. Furthermore, parental indifference, a narrow curriculum, and an unstimulating school environment have forced thousands of boys and girls out of school before completing an elementary education. In addition, there are thousands who have had few or no educational advantages whatsoever. Thrown upon their own resources in a complex social organization, they are seriously handicapped. Virtually millions of adults, both white and colored, are eager for the advantages which opportunity schools afford. It is imperative that provision be made for such people so that they may become more efficient socially and may live much richer, happier lives.

INSPECTION OF PRIVATE SCHOOLS IN ENGLAND

The Departmental Committee appointed by the English government to inquire into the desirability of requiring that private schools be inspected and to some extent controlled, either by the local authorities or by the Board of Education, has recently made its report. The report reveals that there are approximately 14,000 pupils in the private schools of England and Wales and that the number of such schools is about 10,000. These schools differ widely in their aims and organization, the character of their premises, and the quality of their staffs. The percentage of these schools which have been inspected by government authority has not been large. The committee recommends a more vigorous policy of inspection and

supervision. The following paragraphs summarize the scheme of supervision recommended by the committee.

THE SCHOOL

1. The schools subject to supervision will be all private schools, subject to certain exemptions and to certain limitations of the meaning of the term "school." . . .

2. Every proprietor of a school subject to supervision must register his school by supplying the local education authority with essential particulars on a prescribed form and thereafter must make an annual return to keep this information up to date. Failure to register will be an offense. Closure of the school for any considerable time (except for holidays) must be notified at once, and the registration must be renewed if the school moves or changes hands.

3. The school must be open to inspection (at any reasonable time and without notice). The proprietor must choose whether the school is to be inspected by the Board of Education or the local education authority; the local education authority, however, may notify the Board that they will not inspect all or any of the schools which have chosen their inspection and these schools will then fail to be inspected by the Board.

4. For children of "school age" (that is, five to fourteen years of age, or where the local by-laws so require, five to fifteen) attending his school the proprietor must provide, in reading, writing, and arithmetic, efficient instruction of a scope and standard suited to their age and capacity.

5. The premises and equipment of the school must conform with requirements laid down in statutory regulations prescribed for private schools.

6. If the inspecting authority (the Board of Education or the local education authority as the case may be) are of the opinion that the proprietor of a school is failing to provide efficient instruction or suitable premises under 4 and 5 above, they will either (i) give notice of their intention to apply to a Court of Summary Jurisdiction for an order for the closure of the school or (ii) alternatively, if their complaint against the school relates solely to overcrowding or to the admission of pupils of an age or sex for which the premises are not suitable, give directions on these points.

7. Six months after such notice or such directions have been given, the inspecting authority will be at liberty to apply for an order for the closure of the school or for the enforcement of the directions.

8. During this period of six months, however, the proprietor may, if he desires, require the inspecting authority either (i) to proceed at once with their application for an order, or (ii) alternatively in the case of a school inspected by a local education authority, to refer the matter at issue to the Board of Education for determination. If the proprietor chooses this alternative, the Board's determination will be final.

THE PARENT

9. The parent of a child of "school age" must cause the child

a) to receive, in reading, writing, and arithmetic, efficient instruction of a scope and standard suited to his age and capacity. The Committee are practically equally divided on the question whether the parent of a child attending a school should remain under this obligation, despite the obligation on the proprietor of the school (see 4 above) or whether the parent should be relieved of the obligation (a) above if he causes his child

b) to attend a school in receipt of grants from public funds, or

c) to attend a registered school (or a school deemed to be registered). It will rest on the parent of a child attending a school to cause the child to attend regularly, subject to the reasonable excuses provided in Section 29 of the Education Act, 1921, respecting sickness or distance from school.

THE LOCAL EDUCATION AUTHORITY

10. The duties of the local education authority will be:

a) To ascertain what private schools are situated in their area

b) To receive the registration forms and annual returns completed by proprietors, to forward a copy of each form or return to the Board of Education and to keep a local register of private schools.

c) To take proceedings against any person responsible for a private school in their area who fails to register the school.

d) To inspect periodically all private schools placed open to their inspection except any school or schools which they are unwilling to inspect. (The authority must notify the names of schools which they are unwilling to inspect to the Board of Education.)

e) In respect of any school which in the authority's opinion fails to provide efficient instruction or has unsuitable premises (see 4 and 5 above) to seek the appropriate remedy in accordance with 6, 7, and 8 above.

THE BOARD OF EDUCATION

11. The duties of the Board of Education will be:

a) To receive copies of the registration forms and annual returns and to keep a register of private schools in England and Wales.

b) To inspect periodically all private schools placed open to their inspection.

c) In respect of any school which in the Board's opinion fails to provide efficient instruction or has unsuitable premises (see 4 and 5 above) to seek the appropriate remedy in accordance with 6, 7, and 8 above.

d) To determine matters referred to them by the local education authority at the request of the proprietor of a private school under 8 above.

INQUIRY AS TO RELIGION OF APPLICANTS FOR POSITIONS IN PUBLIC SCHOOLS PROHIBITED IN NEW YORK

At its most recent session the legislature of the state of New York passed the following statute.

SECTION 1. Chapter fourteen of the laws of nineteen hundred nine, entitled "An act relating to civil rights, constituting chapter six of the consolidated laws," is hereby amended by inserting therein a new section, to follow section forty, to be section forty-a, to read as follows:

40-a. *Inquiry concerning religion or religious affiliations of person seeking employment or official position in public schools prohibited.* No person, agency, bureau, corporation, or association employed or maintained to obtain or aid in obtaining positions for teachers, principals, superintendents, clerks, or other employees in the public schools of the state of New York, and no individual or individuals conducting or employed by or interested directly or indirectly in such an agency, bureau, corporation, or association, and no board of education, trustee of a school district, superintendent, principal or teacher of a public school, or other official or employee of a board of education shall directly or indirectly ask, indicate or transmit orally or in writing the religion or religious affiliation of any person seeking employment or official position in the public schools of the state of New York

2. Section forty-one of such chapter, as last amended by chapter one hundred and ninety-six of the laws of nineteen hundred eighteen, is hereby amended to read as follows:

41. *Penalty for violation.* Any person who or any agency, bureau, corporation, or association which shall violate any of the provisions of sections forty and forty-a or who or which shall aid or incite the violation of any of said provisions shall for each and every violation thereof be liable to a penalty of not less than one hundred dollars nor more than five hundred dollars, to be recovered by the person aggrieved thereby or by any resident of this state, to whom such person shall assign his cause of action, in any court of competent jurisdiction in the county in which the plaintiff or the defendant shall reside; and such person and the manager or owner of or each officer of such agency, bureau, corporation, or association, as the case may be shall, also, for every such offense be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than one hundred dollars nor more than five hundred dollars, or shall be imprisoned not less than thirty days nor more than ninety days, or both such fine and imprisonment

3. This act shall take effect immediately.¹

RETRENCHMENT AND THE CURRICULUM

In the recently published annual report of the school department of Newton, Massachusetts, Superintendent Wheeler makes the following statement with regard to the enlarged curriculum.

Criticism is often voiced against modern educational practices and objectives as a consequence of the large number of subjects taught. Some of these are derided as "fads and frills" by those who believe that the old and narrow curricu-

¹ Chapter 234 of the *Laws of New York, 1932*.

lum was not only adequate for all pupils but that it resulted in a better and more thorough training. It is true that the number of schools only, not the quality, has increased since the establishment of public education, and the standard of quality has not yet been reached.

Whether or not all these larger opportunities are necessary, and whether or not neither the schools nor the teachers are responsible for them, the fact remains that they have resulted from legislation inspired by people who have a sense of the need of a broader education and a better preparation for adjustment to this modern and complex civilization.

It is undeniably true that these larger opportunities have added materially to the cost of education, and for that reason more than any other the teaching of these subjects has been criticized. Special teachers must be employed and extra equipment and accommodations provided. This situation, however, is not quite so expensive as it might appear, for all pupils are not required or recommended to pursue all of the subjects. This is particularly true in the high school. The varied offerings make it possible for students to select subjects according to their individual needs or to prepare for special objectives. If fewer subjects were offered more pupils would enrol in them, with the result that the same number of teachers would be needed. There is little probability, therefore, of reducing the cost resulting by the elimination of high-school subjects. Only by diversification of subjects requiring special teachers can any appreciable saving be made, and all the new subjects are required by law.

Superintendent Wheeler gives the accompanying list and studies to illustrate the expansion of the curriculums in the elementary and secondary schools in Newton since 1775.

The public is fully aware of the fact that the curriculum has been materially expanded during the past few decades. When, therefore, a demand arises to reduce school costs, one of the most vulnerable points of attack is the newer subjects—the so-called “fads and fashions.” What the public does not understand is how and why these newer subjects have come into the curriculum. The taxpayer should be made to understand that the expansion of the curriculum has been brought about, not by the arbitrary demands of school people, but by conditions outside the school over which educational leaders have had relatively slight control. Every consideration of economy both with respect to revenue and time has pointed to an enriched curriculum in the upper elementary grades. Increased attendance at high school has made an expanded curriculum at this level of instruction inevitable. It has been necessary to provide instruction which would challenge the interest and meet the needs of the new

EXPANSION OF ELEMENTARY-SCHOOL CURRICULUM

1775 TO 1925

1775	1900
Spelling	Manual training
Reading	Sewing
Writing	Physiology and hygiene
Arithmetic	Drawing
	English, grammar and lan- guage
1850	Geography
Grammar	Spelling
Geography	Reading
Spelling	Writing
Reading	Arithmetic
Writing	Good behavior
Arithmetic	Music
Good behavior	History of the United States
	Elements of science
1875	Agriculture
Physiology and hygiene	
Drawing	1925
Grammar	Duties of citizenship
Geography	Manual training
Spelling	Physical education
Reading	Home-making
Writing	Physiology and hygiene
Arithmetic	Art and handwork
Good behavior	English, grammar and lan- guage
Music	Geography
History	Spelling
Agriculture	Reading
	Writing
	Arithmetic
	Good behavior
	Music
	History and Constitution of the United States
	Nature study
	Literature
	Civics

EXPANSION IN SECONDARY-SCHOOL CURRICULUM
1850 TO 1925

1850	1925
History of United States	English
Bookkeeping	Biology
Geometry	Physiology
Algebra	Plane geometry
Latin	Solid geometry
General history	Trigonometry
Physiology and hygiene	Stenography
Surveying	Type writing
Greek	Penmanship
Rhetoric	Chemistry
Logic	Astronomy and geology
	German
1875	French
Natural philosophy	History, United States, and civics
Civil polity	Bookkeeping
Botany	Algebra
Chemistry	Latin
Astronomy	History, European
French	History, English
German	History, Commercial
Bookkeeping	History, Ancient
Geometry	Spanish
Latin	Mechanical drawing
General history	Problems in citizenship
Surveying	Physics
Greek	Business arithmetic
Rhetoric	Salesmanship
Logic	Commercial law
Mechanical drawing	Commerce and industry
Geology	Household arts
Political economy	Arts and crafts
Moral science	Drawing, Freehand
Agriculture	Manual training
	Music

constituency. So long as society insists that more than half of the youth of high-school age attend high school, it will be impossible to go back to the curriculum of 1900.

The fact is that the current demands for economy offer an opportunity to bring about a more satisfactory selection and organization of instructional materials. There can be little doubt that the rapid expansion of the curriculum in recent years has resulted in an unnecessary multiplication of subjects; a certain amount of co-ordination and consolidation is highly desirable. It is equally true that the process of eliminating some of the older, traditional subject matter has not been carried as far as it should be. Moreover, there is a great deal of new instructional material, especially in the field of the social sciences, which should speedily find a place in the curriculum. It is to be hoped that school people will themselves take the initiative and not permit changes to be forced on them by an ill-informed public opinion. To permit the new subjects to be eliminated indiscriminately would be a disaster which it would take many years to overcome.

INCREASED SCHOOL ENROLMENT

The following statement was recently published in the *New York Sun*.

The percentage of population going to school has increased in every age group, it is announced in a bulletin issued by the United States Census Bureau, having gone up from 61.3 per cent of the 5-20 year group in 1920 to 69.9 per cent in 1930. The rise is particularly marked in the age groups affecting secondary schools, the largest percentage increase being shown among sixteen-year-old children. Among these 50.8 per cent went to school in 1920 and 66.3 per cent in 1930.

In the elementary-school groups the percentage of the population at class increased in the decade from a fraction of 1 per cent among the six-year-olds to 6.6 per cent among those of 14 years. In the so-called secondary-school ages the percentages of increase were: 15 years, 11.8; 16 years, 15.5; 17 years, 13.3; 18 years, 9.

At the college level the rise also was substantial. The nineteen-year group increased 6 per cent and the twenty-year group, 1.8. The bulletin does not go above this age group.

The exact figures for the various age groups are given in the accompanying table, showing the total number of each at school in 1930, the percentage they constituted of the total population of their respective ages, and the corresponding percentage in the 1920 census.

Age	Number	Percentage	
		Boys	Girls
5	509,724	29.0	20.0
6	1,467,464	29.2	20.0
7	2,202,330	29.3	20.0
8	2,451,044	29.4	20.0
9	2,401,956	29.5	20.0
10	2,427,354	29.7	20.0
11	2,270,235	29.7	20.0
12	2,408,627	29.7	20.0
13	2,242,054	29.6	20.0
14	2,212,825	29.2	20.0
15	1,943,551	28.4	20.0
16	1,560,830	28.0	20.0
17	1,160,018	27.9	20.0
18	723,524	27.7	20.0
19	411,814	27.6	20.0
20	201,446	27.1	20.0
Total	26,849,630	29.0	20.0

Until the eighteenth year, the percentage of girls at school was, with few exceptions, consistently higher than the percentage of boys. At the age when students turn to college, however, the figures went up in favor of the boys.

THE STATUS OF TEACHERS AND PRINCIPALS IN THE RURAL SCHOOLS

The fact that local educational authorities in this country have been vested with a large measure of control over their schools has promoted experimentation and has materially advanced the scientific study of education. Local control, on the other hand, has resulted in inequalities of educational opportunities, especially in the rural districts. During the past decade much has been done by the various states to enable the poorer communities to maintain minimum educational standards. A recently published bulletin of the United States Office of Education entitled *Status of Teachers and Principals Employed in the Rural Schools of the United States* (Bulletin Number 3, 1932) reveals, however, that many rural schools are still taught by poorly trained and poorly paid teachers. The following paragraphs are quoted from the bulletin.

The facts reported in this study lead to the estimate that there are in the United States a total of nearly 217,000 schools which are located in rural communities and are under the immediate administrative control of county and other superintendents of rural schools. These schools enrol nearly 11,000,000

children commonly designated as rural, and in them are employed a total of something more than 400,000 teachers and about 15,000 principals. Of this vast army of teachers about 360,000 are white and 40,000 are negro. . . . It is this great group of teachers and principals upon whom the children living in the rural communities of the nation must to a large degree depend for their education.

If all of these 400,000 teachers of rural schools were arrayed first on the basis of the amount of annual salary received, then on the basis of the number of days employed per year, then on the basis of educational achievement, and finally on the basis of the number of years they have been teaching, the following would be an approximate composite of the middle teacher of each array: She receives an annual stipend of \$926; for this sum of money she works a total of 163 days, or about one week more than 8 school months; she has acquired a total education equivalent to slightly less than one year beyond graduation from high school; and she has been teaching for a total of three years and five months.

Nearly 40 per cent of the entire group of teachers employed in the rural schools are teaching in one-room schools. From this we may estimate that about 150,000 of the teachers of the United States are employed in this type of school. Of this number approximately 131,500 are white and 18,500 are of the negro race. Summarizing the general status of the white teacher in this group of schools, we find the following composite when medians are taken from the several arrays of data: She is paid an annual salary of \$883, for this sum she works 162 days; she has an education equal to high-school graduation plus attendance at one summer school, and she has been teaching for a total of two years and six months. Nearly one fourth of the entire group is twenty years of age or younger, and about four out of every hundred are not more than eighteen years of age.

Using the percentages derived from this study the education of both the white and negro teachers of America's one-room school may be depicted as follows:

If we were to imagine the 153,306 one-room teachers recently reported by the states as standing side by side, one every 3 feet, their ranks would extend in an unbroken line for a distance of 87 1 miles. If this army of teachers were arranged in such a way that the one having received the least amount of training stood at one end and the one having received the largest amount of training at the other, a person reviewing this great company would find it necessary to walk a distance of 14.75 miles before coming to a teacher with a training longer than two years of high school, he would have to walk nearly half the entire distance before coming to one with more training than high-school graduation, he would have to continue his walk for a distance of 66.8 miles before reaching the first teacher with the equivalent of two years of normal school education; and he would have to prolong his walk to a point 3 miles from the end of the line before coming to the first teacher who had the equivalent of a college education.

Continuing this type of summarization on the matter of the salaries paid in all one-room schools of the nation, it is found that a marcher beginning at the end where the lowest paid teachers are located would have to traverse 8.5 miles,

or nearly one-tenth of the length of the line, before coming to the first teacher receiving as much as \$500 per year; he would have to march 12.5 miles before coming to a teacher who receives \$750 per year, and he would have to march his review for 74.6 miles, 12.5 miles from the end, before finding the last teacher who receives \$1,000 per year.

If this same group of teachers were now rearranged on the basis of experience, the reviewer would have to walk 20.6 miles before finding the first one who has had any teaching experience before the current year, he would have to continue his trek for a total of 35.4 miles before he should come to a teacher who has been teaching for more than two years; and he would have to travel a distance of 65 miles, less than one-third from the end of the entire line-up, before coming to one who has had a total teaching experience of as much as five years. The reviewer would find that as his march progresses the proportionate number of negroes in the line increases.

It will also be of interest at this point to attempt a cross-section summary of the status of the negro teacher of one-room schools. The disparities when compared to the teachers of white schools are marked. The investigation indicated that there are in the United States about 18,500 negro teachers of one-room schools. The median teacher in this group is paid an annual salary of \$304, for this sum she teaches a total of 123 days, she has received an education equal to about 2 years and 6 months above the elementary school, and she has been employed as a teacher for about 4 years.

The status of the principals who are in charge of the rural schools is also reviewed in a like manner, revealing the following. There are employed in the rural schools of the nation approximately 15,000 school principals, that is to say, about 2 out of every 5 rural schools employing a principal employ someone who devotes one-half or more of his time to administrative and supervisory activities. The salary paid to the median principal is \$2,444, for this training equal to about seven years beyond the elementary grades (equivalent to about normal-school graduation), and he has been employed for a total of about eight years.

PROGRAMS OF SOCIAL STUDIES FOR THE SCHOOLS OF THE UNITED STATES

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It is very generally recognized that the schools of this country should give more attention to the social studies than they have in the past. During the World War there were numerous disquieting revelations of the fact that the people of the United States, even well-educated citizens, were, to a shocking degree, uninformed on vital social problems. As a result of the exposure of this fundamental deficiency in popular understanding, some efforts have been made during the past decade to reinforce in public schools those lines of instruction which deal directly with social institutions. History courses have been extended and made to include more items which throw light on the life of the common people. Civics courses of a more or less satisfactory type have been introduced in many schools which did not have courses in civics before, and of late there has been some agitation in favor of so-called "character education." In spite of all that has been done, however, the conviction remains that the schools of this country are failing to cultivate as they should an understanding of society and its organization.

The economic crisis and its attendant political upheavals have greatly strengthened the demand for immediate expansion of the program of social studies. A number of agencies are vigorously at work attempting to furnish the details of an enlarged program. It is the purpose of this article to comment on three of the proposals which have recently been put forth.

Under the title *Dare the School Build a New Social Order?*¹ Professor George S. Counts has challenged the teachers of this country deliberately to "reach for power and then make the most of their conquest." He writes:

¹ George S. Counts, *Dare the School Build a New Social Order?* John Day Pamphlets, No. 11. New York: John Day Co., 1932. Pp. 56.

To the extent that they (the teachers) are permitted to fashion the curriculum and the procedures of the school they will definitely and powerfully influence the social attitudes, ideals, and behavior of the coming generation. In doing this they should resort to no subterfuge or false modesty. They should say neither that they are merely teaching the truth nor that they are struggling for world power in their own right. . . . Instead of shunning power, the profession should rather seek power and then strive to use that power fully and wisely and in the interests of the great masses of the people (pp. 28-30).

A second pronouncement, which has behind it the authority of the Commission on the Social Studies of the American Historical Association, was prepared by Charles A. Beard, a well known student of government and history, and is published under the title *A Charter for the Social Sciences in the Schools*.¹

The third proposal is in the form of three concrete examples of a type of reading material which, it is believed, will give pupils a new view of their dependence on co-operative social effort. The Committee on Materials of Instruction of the American Council on Education has published three brochures² under the general series title "Achievements of Civilization." One of these brochures contains an account of the development of the alphabet, another a study of number systems, and the third a history of weights and measures. Other brochures are to be published in the near future.

Professor Counts has been a contributor of note to educational literature for more than fifteen years. He has served on the faculties of educational institutions on the Atlantic and Pacific seaboards and in the central states. He made an elaborate study of the senior high school programs of studies in fifteen of the leading cities in various parts of the country. He participated in the educational survey of the Philippine Islands and has twice visited European countries, including Russia, for the purpose of studying the relation of schools to the social systems of those countries. He is, therefore, qualified by experience of unusually broad range to contribute to the discussion of social studies in the schools.

¹ *A Charter for the Social Sciences in the Schools*. Drafted by Charles A. Beard. Report of the Commission on the Social Studies of the American Historical Association, Part I. New York: Charles Scribner's Sons, 1932. Pp. xli+122.

² Achievements of Civilization: Number 1, *The Story of Writing* (64 pages); Number 2, *The Story of Numbers* (32 pages); Number 3, *The Story of Weights and Measures* (32 pages). Chicago: Committee on Materials of Instruction of the American Council on Education (5835 Kimbark Avenue), 1932.

The book here reviewed from which an extract was quoted in an earlier paragraph is a collection of addresses delivered at educational meetings. The argument presented by Professor Counts is in brief as follows: 'The industrial system controls everyone and compels everyone to adopt certain patterns of action. Industry and the school are alike in that both dominate, in a large measure, the life of the individual. The school as a social institution imposes on its pupils certain conceptions of life and cultivates certain conventional modes of activity. In view of the fact that the school thus influences the thinking and acting of pupils, it is highly desirable that the school should contribute consciously and energetically to the upbuilding of a social order better than that now existing. The school is in a strong position and can do much to improve the conditions of life because it has control of young people at a formative stage. Certainly the conditions of life today are sadly confused and far from ideal. The need of reform in society is apparent on every hand. Let teachers come to the rescue and open the minds of pupils to a new kind of civilization.

While urging teachers to achieve leadership in establishing a new world, Professor Counts pauses at times to indicate how incompetent schools seem to have been in the past in influencing social organization. He writes:

Except as it [the existing school] is forced to fight for its own life during times of depression, its course is too serene and untroubled. Only in the rarest of instances does it wage war on behalf of principle or ideal. Almost everywhere it is in the grip of conservative forces and is serving the cause of perpetuating ideas and institutions suited to an age that is gone [p. 5].

At a later point he reiterates the charge that teachers are ordinarily delinquent:

The fact that other groups refuse to deal boldly and realistically with the present situation does not justify the teachers of the country in their customary policy of hesitation and equivocation [pp. 53-54].

He expresses doubt about the ability of teachers to achieve what he would have them achieve:

We hold within our hands the power to usher in an age of plenty, to make secure the lives of all, and to banish poverty forever from the land. The only cause for doubt or pessimism lies in the question of our ability to rise to the stature of the times in which we live [p. 36].

Professor Counts suggests in the following paragraphs some of the reforms which he would have teachers effect:

Capitalism is proving itself weak at the very point where it has been thought it impregnable. It is failing to meet the present-day test, it is not getting work; it is unable even to organize and maintain production. The present form capitalism is not only cruel and inhuman, it is also wasteful and inefficient. It has exploited our natural resources without the slightest regard for the future needs of our society; it has forced technology to serve the interests of the few rather than the many; it has chained the engineer to the shackles of the price system; it has plunged the great nations of the earth into a succession of wars ever more devastating and catastrophic in character. Recently it has brought on a world crisis of such dimensions that the economic order is paralyzed and millions of men in all the great industrial nations are deprived of the means of livelihood. The growth of science and technology has carried us into a new age where ignorance must be replaced by knowledge, competition by co-operation, trust in providence by careful planning, and private capitalism by some form of socialized economy.

There remains the task of reconstructing our economic principles and of reformulating our social ideals so that they may be in harmony with the underlying facts of life. The man who would live unto himself alone cannot survive in the modern world. The day of individualism in the production and distribution of goods is gone. The fact cannot be overemphasized that it comes to us as a choice between individualism and collectivism. It is rather between the individualism of the few and the collectivism of the many: the one essentially democratic, the other feudal in spirit. It is a choice between devotion to the interests of the people, the other to the interests of a privileged class [pp. 47-49].

Dr. Beard, like Professor Counts, has had a breadth of training and experience which amply qualifies him to write on the social studies. In addition to possessing ideas of his own, he has the advantage of support from the Commission on the Social Studies of the American Historical Association, which is made up of sixteen representatives of all the social sciences. This commission has held conferences for somewhat more than two years, discussing what can be done to improve the social studies in the schools of the United States. It authorized Dr. Beard to act as its spokesman in the preparation of this book, which is the initial publication of the Commission.

Dr. Beard is much less confident than is Professor Counts that the teachers of this country can devise and instal a new social order. His view is as follows:

For many of the problems even the wisest statesmen have no certain solution; it may happen that some of them will disappear entirely or never be solved by any process. The schools have no access to super-wisdom. If they do, then, educators might well take over the government of the country. Even the professors in graduate schools would scarcely want to assume that responsibility. When we take into account the inadequate preparation of thousands of teachers in the public schools, their inexperience, and the heavy turnover among them, we must confess some misgivings about expecting a facile solution of the problems of democracy through and by the public schools [p. 44].

Dr. Beard lays down the broad general considerations which must be taken into account in developing a program of social studies:

Speaking generally, we may say at the outset that instruction in social studies in the schools is conditioned by the spirit and letter of scholarship, by the realities and ideas of the society in which it is carried on, and by the nature and limitations of the teaching and learning process at the various grade levels across which it is distributed. Admittedly, other stipulations are possible, but these seem to be stubborn and irreducible, to use favorite words of William James. They seem to set a certain inevitable framework for determining the content and applications of civic instruction. So much, therefore, we assume in the beginning [p. 2].

Later, as he elaborates the general statement quoted in the foregoing paragraph, he comments, as does Professor Counts, on the changing character of present-day industrial society. The conclusion which he draws from his study of the current industrial situation is somewhat different from the conclusion which Professor Counts reaches from the same premise. Dr. Beard's statement is as follows.

All industry becomes dynamic, changeful, requiring for its development extraordinary qualities of alertness, mobility, and ingenuity. Routine skill is seldom enough, capacity for adaptation is the prime source of achievement. And this new life must be led in the midst of urban centers large and small, not in the open country where our ancestors tilled the fields, spun and wove. It must be lived amid circumstances which dissolve the habits and loyalties of agrarian and village times. Therefore, the assumption that the schools can indoctrinate the pupils with fixed ideas and give them definitive skills good always and everywhere has little warrant in our industrial civilization [pp. 32-33].

There is one further impressive contrast between the pronouncements of the two writers here reviewed. The concrete suggestion made by Professor Counts for an enlarged program of social instruc-

tion relates almost wholly to the economic and industrial situation. Dr. Beard is not altogether blinded by the present-day situation of unemployment which darkens the world; he emerges from his discussion of the present situation with a theory of education which preserves much more of the conventional program than does the doctrine defended by Professor Counts.

One passage from Dr. Beard's book may be quoted as giving encouragement to the teachers who labor in the elementary schools, attempting to cultivate such arts as reading, writing, and the general number. To be sure, Dr. Beard does not seem in this passage to be fully aware of the long and arduous task which the school must perform in transmitting these rudimentary but essential tools of civilized thinking. He passes lightly to encyclopedias and documents, omitting what may properly be urged as necessary and legitimate attention to primers and books on first steps in arithmetic. It is encouraging to note that, in spite of his oversights, he recognizes as he does in the following statement, the fact that teachers have nothing to do other than correct the evils of capitalism and industrialism.

To attain information certain skills are necessary. These are signs and instruments of power. In a way, this topic might well be the first on the list. For the information imparted in the schoolroom is severely limited in its range and is only a small part of the equipment for life. A knowledge of how to get knowledge is a permanent possession which can be used throughout life. The acquisition of such knowledge can be promoted by discipline in the methods of attaining access to information— the use of encyclopedias, authorities, documents, sources, statistical collections. Even in the lower grades it is possible to awaken and stimulate this latent capacity. Any teacher can ask: How can we know the truth about this simple situation? And then answer it by reference to authoritative materials. All the way through the schools the process must be followed, ever sharpening the mind by increasing the complexity of the questions about which questions are asked and of the materials necessary for correct answers, rising steadily in the complexity and abstraction of the problems considered [pp. 99-100].

The brochures published by the Committee of the American Council on Education do not discuss, as do the writings of Professor Counts and Dr. Beard, the theory of social instruction; they present a direct experimental answer to the question: What can the schools do to make pupils more completely socially minded? These bro-

chures are cheap, well-made, authoritative booklets of thirty-two or sixty-four pages, each describing in terms that pupils can readily understand an intellectual invention which the race has made and perfected as a contribution to present-day civilized life. The facts with which these brochures deal are more fundamental by far than the facts of the present emergency. No one can doubt that, after the present economic system has passed into the system of the future, the alphabet, number, and weights and measures will survive as basic instruments of the new order.

The real foundations of civilization were laid before Europe entered on the World War and before modern diplomats and politicians attempted to repair the devastations of the war. Social scientists may confer and devise, and social reformers may point out the injustices of industrialism as now organized, but, in so doing, they will have to use the alphabet and the number system, without which current thinking would be impossible.

The difficulty with much of the discussion regarding the school which is carried on during these days of economic depression is that it does not deal with the human institutions which are fundamental. Anthropology has as much to offer in the way of enlightenment about civilization as has the very new science of economics. Teachers have contributed to modern life for many generations something which even the bankers cannot destroy through their excursions into speculation.

To be sure, the schools have not at all times been aware of their function as carriers of civilization. There are too many teachers who pass on the Arabic numerals to their pupils without knowing, or thinking to ask, why these numerals are called "Arabic" or why they are accepted instruments of modern thought. Arithmetic has frequently been taught as a collection of dreary tasks. The romance of arithmetic has been overlooked, and pupils have not been introduced to one of the major lessons of life—the lesson that they owe infinite obligations to the race, which, in struggling from savagery to civilization, has created for the modern world a heritage of intellectual devices which are of supreme value.

Every intelligent thinker will join Professor Counts and the Commission on the Social Studies of the American Historical Association

in accepting the view that something must be done at once to make the program of the schools of the United States more effective in conveying to pupils the lessons of the social studies. Indeed, one is justified in expressing some impatience with the necessity which they seem to be under of writing about what ought to be done when it is obvious that much needs to be done without delay. Is not actual experimentation more likely to be effective than even the most brilliant writing about what may or should be thought of as possible? The virtue of the program promoted by the Committee of the American Council is that it is tangible, concrete, and ready for use in the schools. The three brochures now available and those which are to follow have as their purpose the presentation of basic social information in a form which makes this information easily accessible to pupils. The form of publication is designed to encourage in all schools the adoption of the library method of teaching. The contention of the Committee of the American Council is that there should be something far more interesting to put into the hands of pupils than the conventional textbook, which, because of its very compactness, has often been uninviting to the pupil. It is the belief of this committee that the formal type of instruction which has resulted from the limitations of ordinary textbooks has been largely responsible for the failure of pupils to see beyond the day's task and to recognize the social import of their studies. The conception which the Committee of the American Council aims to promote with regard to the social studies is all-inclusive. The school is not to be thought of as a place where the social studies are subjects taught as parts of a program made up, in the main, of non-social studies. Every subject of the curriculum is to be clearly recognized by teachers as a social inheritance. With this definite and comprehensive understanding of the units of the curriculum, teachers are to proceed with their instruction in such a way as to reveal to pupils the fact that all the work of the school is a part of the program of social training. To know the alphabet as a social creation is better than to know the alphabet as a series of arbitrary symbols. To recognize number and weights and measures as products of social co-operation is better than to be compelled to learn denominate numbers in a formal way from unexplained and apparently unexplainable tables.

IMPLICATIONS FOR ADMINISTRATION AND TEACHING GROWING OUT OF PUPIL FAILURES IN FIRST GRADE

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Educational literature is replete with reports of investigations pertaining to pupil failures in school, that is, the failure of a pupil to be promoted to the next higher grade at the regular promotion period. Invariably these studies have shown that the largest percentage of failure occurs in the first grade and that reading is the subject of greatest difficulty.¹ It is not the purpose of this discussion to review the data on pupil failures which have been presented in other places but to raise what seem to be pertinent questions growing out of the present promotional practices as they apply to the first grade.

Inquiries about the causes of non-promotion in the first grade have usually produced a long list of items which superintendents and teachers believe are factors contributing to pupil failure.² Among the various causes are such items as lack of mental ability, physical defects, etc., which some writers have reported may be charged against the child, while other factors may be charged against the teacher, the school, or the out-of-school environment.³ The one cause most frequently mentioned, regardless of the classification one may prefer, is inadequate mental ability. Apparently, school administrators and teachers believe that inability on the part of the child to cope with the academic tasks prescribed by the school is

¹ a) Arch O. Heck, *Administration of Pupil Personnel*, pp. 352-84. Boston, Ginn & Co., 1929.

b) *The Unifying Factors in American Education*, p. 53. Ninth Yearbook of the Department of Superintendence. Washington: Department of Superintendence of the National Education Association, 1931.

² For example, see pages 52-55 in the Ninth Yearbook of the Department of Superintendence already cited.

³ Arch O. Heck, *op cit*, p. 366.

cause for failure. Let us examine more carefully some of the implications which are raised by the administrative policy suggested in this statement.

According to many recent writers in education, the movement for adapting school organizations and teaching methods and materials to the individual needs of pupils has been under way for some what over a half-century and has progressed to the point where the terms "individual differences" and "provision for individual needs" are the common parlance of educators.¹ If the contention that it is the business of the school to adapt materials and methods to the needs of individual pupils is accepted, it is difficult to see how inadequate mental ability can be a cause of failure. It would seem that any school system which seeks to justify pupil failure on the basis of the inadequate mental ability of pupils is begging the question and is admitting openly that the school through its organization, curriculum prescriptions, teaching procedures, and administrative policies is not meeting the challenge of the best modern educational procedure. Obviously, many factors other than lack of mental capacity are operative and may perhaps justify non-provision. However, it would seem that, if the best diagnostic and remedial measures available are applied according to the needs of individual pupils, there will be relatively few pupils who will not achieve to the best of their ability, and hence there will be little cause for failure.

A second issue associated with pupil failure in the first grade grows out of the curriculum requirements for this grade. In most schools today it is assumed that reading must be the major subject of instruction in the first grade. Except in the case of the trace school, in which reading instruction is begun in the kindergarten, it is also assumed that systematic instruction in reading should be begun when the pupil enters the first grade. It is just naturally understood that, when the child begins school (Grade I), the thing to do is to teach him how to read. It has always been that way.² Perhaps it should be that way, especially in view of the fact that attainment

¹ a) Alice V. Kellner, *A Critical Study of Homogeneous Grouping*, pp. 1-22. Teachers College Contributions to Education, No. 452. New York: Teachers College, Columbia University, 1931.

b) Leo J. Brueckner and Ernest O. Melby, *Diagnostic and Remedial Teaching*, pp. 17-53. Boston: Houghton Mifflin Co., 1931.

in American elementary schools depends in such a large degree on reading ability. However, several factors arise which complicate the situation for the first-grade teacher.

Such scientific evidence as has been gathered points to the conclusion that children cannot profit materially from reading instruction until they have reached a mental age of six years and preferably six years and six months.¹ If either of these two mental ages is taken as the opportune time to begin instruction in reading, most first-grade teachers are faced each year with groups of pupils—admitted to school on a chronological-age basis, usually six years—whose mental ages have not reached the point where instruction in reading could be expected to bring satisfactory returns. Thus, many teachers are assigned what would appear to be an impossible task, namely, teaching curriculum content to pupils who are mentally too immature to master the work. The inevitable results are that many pupils fail and that occasionally the teacher is labeled a failure when in reality neither pupil nor teacher is primarily at fault. Rather the failure may be charged to the administration in that its educational machinery is not shaped to harmonize with the educational needs of pupils.

As a means of avoiding the financial losses incurred and the personal losses to the pupil by non-promotion, several proposals have been made. Among these is the suggestion for a revision of the bases upon which pupils are admitted to the first grade. If capacity to do school work as manifested by mental age should become the criterion for admission to the first grade, a much larger proportion of pupil success than now prevails would be assured. If the grade placement of curriculum content for the first grade is to be considered so thoroughly and scientifically established that its present most commonly found status cannot be altered, then entrance on the basis of mental age is no doubt to be preferred. Under those conditions school

¹a) Mabel Vogel Morphett and Carleton Washburne, "When Should Children Begin To Read?" *Elementary School Journal*, XXXI (March, 1931), 496-503.

b) Edw. Chester Deputy, *Predicting First Grade Reading Achievement: A Study in Reaching Readiness*. Teachers College Contributions to Education, No. 426. New York: Teachers College, Columbia University, 1930.

c) W. W. Thiesen, "Does Intelligence Tell in First-Grade Reading?" *Elementary School Journal*, XXII (March, 1922), 530-31.

systems which provide no kindergartens will find a large proportion of children (those of less than normal intelligence) who will be seven, eight, and nine years of age before they can enter the public schools. The advisability of such a policy may well be questioned. Even cities which operate kindergartens for all pupils of requisite age find difficulty in retaining the pupils of less than normal intelligence in this introductory unit until they have attained a mental age adequate to cope with the school prescriptions for the first grade.

A plan which is perhaps more feasible and more in harmony with the purposes of public education is to admit to the first grade all pupils who are chronologically six or approximately six years of age and then to provide teaching procedures and a type of classroom organization adapted to the educational needs of the pupils.¹ After all, one of the major functions of a public school is to provide a wholesome environment in which children may grow up. The quantity of academic skills acquired during the elementary-school career and the exact time at which they are acquired is of secondary importance for many pupils, but it is of primary importance that every child be surrounded with, and have an opportunity to develop in, an environment in which right attitudes and ideals may develop. A school cannot make its full contribution to the development of a good citizen if a pupil is denied admission until the mental age is adequate to cope with the tasks prescribed by the course of study nor if failure—to say nothing of successive failures—seems to be the pupil's lot. Hence, it seems that the only defensible policy is to admit on the basis of chronological age and to provide such flexibility in organization, curriculum, and teaching procedures that the educational needs of various types of first-grade pupils will be cared for adequately.

A third factor to be considered with reference to failures in the first grade pertains to promotional policies and standards. The data given in Tables I and II, which serve as a point of demarcation for this part of the discussion, were summarized from the Ninth Yearbook of the Department of Superintendence. The committee which

¹ One proposal for classifying first-grade pupils for instruction in reading will be found in the *Report of the National Committee on Reading*, pp. 30-35. Twenty-fourth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois. Public School Publishing Co., 1925.

TABLE I
BASES FOR PROMOTION FROM KINDERGARTEN TO FIRST
GRADE AS REPORTED BY 505 SUPERINTENDENTS
OF SCHOOLS*

Basis for Promotion	Frequency of Mention
Chronological age.....	201
Teacher's judgment (largely of ability to do first- grade work).....	159
Mental age, mental maturity	94
Test and examination scores	86
Physical maturity	57
Social age, social maturity, social adaptability	56
Achievement or accomplishment	52
Reading readiness	25
Fifteen other bases, each mentioned less than twenty-five times	

*Summarized from *Five Unifying Factors in American Education*, pp. 41-45 Ninth Yearbook of the Department of Superintendence, Washington, Department of Superintendence of the National Education Association, 1931

TABLE II
BASES FOR PROMOTION FROM FIRST GRADE TO SECOND
GRADE AS REPORTED BY 536 SUPERINTENDENTS
OF SCHOOLS*

Basis for Promotion	Frequency of Mention
Reading ability	277
Teacher's judgment (largely of ability to do second- grade work).....	214
Educational achievement	165
Arithmetical ability	74
Standard tests	70
Chronological age	69
Ability to do second-grade work	57
Mental age	49
Social development and maturity	41
Writing ability	37
Length of time in grade	31
Language ability	29
Greatest good to the individual determined on the basis of case history	29
Size and physical development	26
Ten other bases, each mentioned less than twenty-five times	

* Summarized from *Five Unifying Factors in American Education*, pp. 45-47 Ninth Yearbook of the Department of Superintendence, Washington, Department of Superintendence of the National Education Association, 1931

gathered the data for this yearbook received reports from over five hundred superintendents of schools in cities of various sizes with regard to the bases upon which promotions are made from the kindergarten to the first grade and from the first grade to the second grade. By careful analysis the committee found that the bases for pupil promotion at this level are practically the same in cities of all sizes. Consequently, the discussion which follows need not have reference to cities of various sizes.

Table I shows that chronological age was reported most frequently as the basis for promotion from the kindergarten to the first grade. Mental age was posited as a criterion by less than 20 per cent of the superintendents. In school systems which do not maintain kindergartens, children are usually admitted to the first grade on the basis of chronological age. Consequently, it seems that in the large majority of school systems chronological age is the deciding factor in admitting pupils to the first grade. Perhaps that is as it should be. What happens at the end of the first grade? The criterion for promotion shifts from chronological age to reading ability, as is shown in Table II. Chronological age, reported most frequently in Table I, is found in sixth place in Table II and was reported by less than 13 per cent of the superintendents. If all children admitted to the first grade on the basis of chronological age had the mental maturity which seems requisite for success in first-grade reading, little difficulty would arise. Unfortunately, this condition is not universal. Thus, the shift from chronological age to reading ability as the chief criterion for promotion makes failure inevitable for a certain proportion of first-grade children. Is it any wonder, then, that a large percentage of failure is found in the first grade? The very machinery and policies which have been set up to administer the schools make a large proportion of non-promotion in the first grade an inevitable by-product.

Another interesting feature growing out of the situation described in the preceding paragraph is the shift of emphasis or point of view which apparently takes place as pupils progress from the kindergarten to the first grade. If the reports from superintendents may be interpreted to be in harmony with the philosophy of those who have been interested in promulgating the values of kindergarten

training, then it may be concluded that in the kindergarten the chief center of interest is the pupil. Prescribed content, method, and activities are conspicuously lacking. Each kindergarten teacher studies her pupils, determines their strengths and weaknesses, and then plans activities in terms of the diagnosis, using as a guide her concept of the general purposes and functions of the kindergarten. Essentially, the center of interest is the pupil. What happens in the first grade? The data which have been drawn on seem to suggest that from the first grade on the organized machinery of the school is the important factor and that all who cannot surmount the scholastic hurdles designed by the school must be labeled failures.

If the elimination of failure, especially in the first grade, is to be attained, it is essential that the organization of the school and the administrative policies be so adjusted that contradictory forces may not be operative and that the policies which govern promotion and other school procedures harmonize with our general concepts about the functions of public elementary education.

The type of organization which should prevail in the primary grades may be an important factor. Stetson has proposed the abolition of grades in favor of a non-graded primary unit.¹ Hosic and Hopkins have been working with what they have termed a "co-operative group plan."² The essential factor to bear in mind is that the administrative policies which are operative within any organization adopted must be consistent with the findings of research and the basic functions and purposes of public elementary education.

In the absence of adequate scientific data, it may be hazardous to propose what should be done. It may be appropriate, however, to express some points of view which the reader may criticize as he desires. Primarily, the responsibility for pupil failure falls on school administration, the term "school administration" being used in a general sense to mean all phases of organization and administration. If the doctrine of adapting schools to individual differences is really accepted, then—theoretically at least—pupil failure is a myth. If

¹ Paul C. Stetson, "A Suggested Reorganization To Improve Articulation and Promotion," *American School Board Journal*, LXXXII (May, 1931), 40.

² J. F. Hosic and L. T. Hopkins, *The Co-operative Group Plan for the Organization of Elementary Schools*. New York: Teachers College, Columbia University, 1931.

pupils are carefully studied, if adequate diagnoses are made, and if methods and materials are properly adapted, it may be assumed that practically all children will achieve according to their ability. No one can legitimately expect greater achievement. If the assumption is valid, then there is no excuse for failure.

Some will argue that teachers are not trained to perform adequately the type of teaching implied in the preceding paragraph and that the present organization, because of lack of procedures, flexibility, finances, etc., will not permit it.¹ Is such a situation the fault of the child? One of the functions of supervision has been generally understood to be the training of teachers in service, and, as far as inexperienced teachers are concerned, they will not come adequately prepared until those responsible for employing teachers demand that the teachers accepted have the training requisite to perform well a difficult task. Again, lack of funds need not be an immediate deterrent because in most schools tremendous improvements in the prevailing conditions can be made without additional expenditures.

The reader should not be misled to infer that the statements made suggest a loose and chaotic organization. Much to the contrary! It is believed that the suggested principles can be put to practical application through proper organization, in which administrative policies consistent with *the best educational thought of the present day* can be made to operate effectively.

¹ Throughout the article the discussion has been concerned with the typical class groups. Pupils who are distinctly special-class cases should perhaps be given special treatment

THE ACADEMIC AND PROFESSIONAL PREPARATION OF TEACHERS¹

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For more than a century America has been deliberately studying the problems involved in the training of teachers. Throughout this period one experiment has followed another in efforts to prepare teachers to assume intelligently the responsibilities which society delegates to them. One of the impressive lessons which a century of effort has taught is that instruction for prospective teachers must be continually revised in the light of changing social needs and the results of experimentation. There is clear evidence also that at times adequate reforms can be effected only through more or less radical departures from current practice. We face such a period today with respect to the academic and professional preparation of teachers. In support of this assertion brief reference will be made to recent developments which directly affect teaching.

During the last two decades notable social and economic changes have occurred. Industrial and commercial agencies have multiplied on every hand. Large centers of population have developed rapidly in many sections of the country. The products of science and invention have radically modified habits and standards of living. New social attitudes, relationships, and ideals have developed. As a result of these and other significant changes, we are living today in a new social order, which has brought distressing problems as well as many advantages. The economic crisis through which we are passing is a striking example of the problems. It shows how unstable the new order is. It indicates that material progress has been more rapid than the economic and social adjustments that should have accompanied material development. It emphasizes the need of re-evaluation and reconstruction—social, political, economic, spiritual, and

¹ Address delivered at the Educational Conferences conducted on March 14 and 15, 1932, by the Department of Education of the University of Chicago on the occasion of the opening of the Graduate Education Building.

educational. It suggests that on-coming generations should be trained to deal more intelligently with their problems than have persons of the immediate past.

The schools of the nation have made many notable readjustments paralleling recent social changes. They have expanded physically to provide for thousands of young people released from industry. The period for popular education has been greatly extended and includes the junior-college period in many sections of the country. New types of training have been introduced in response to expanding needs. Curriculums in both elementary and secondary schools have been greatly modified and enriched. As a result of deliberate experimentation, new types of class organization and improved methods of teaching have developed. From intensive studies carried on in laboratories and classrooms has come a clearer understanding of individual interests, capacities, and needs and of the problems and difficulties involved in different types of learning. Significant as these developments are, they are slight in comparison with those which must be undertaken in the near future.

The direction of some of the needed changes was forcibly expressed by the curriculum committee of the National Society for the Study of Education in Part II of its Twenty-sixth Yearbook.

It is of increasing moment that our educational agencies be organized for the task of bringing children to a progressive understanding of their responsibility for social progress and of the problems, practices, and institutions of social life. Throughout their school careers pupils should be given opportunities to think about these problems and institutions, to develop attitudes of understanding and tolerance, and to perfect habits of right conduct and creative self-expression. . . . It is imperative that the systematic curriculum of our schools shall consider definitely the problems of economic, political, social, and individual life. Only through frequent and definite practice in clear thinking and right feeling about these problems and issues can children grow in the power to meet them.¹

It is obvious, as Dewey points out, "that education must take on new responsibilities and come to grips with realities which it has passed by as outside its province."²

¹ The Society's Committee on Curriculum-making, *The Foundations of Curriculum-making*, p. 15. Twenty-sixth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1926.

² John Dewey, "America Needs an Entirely New Educational System," *School Management*, I (March, 1932), 14.

Such statements make it clear that superior guidance must be provided in classrooms if boys and girls are to receive training of the breadth and excellence which is now demanded. They emphasize the urgent need of the development of curriculums for teachers which will prepare them to meet effectively the broader responsibilities which contemporary life imposes upon them. The first response made to this demand was an increase in the required amount of training. This trend has been accentuated recently by an oversupply of teachers in many sections of the country. As a result, four years of training beyond high school are required increasingly of prospective elementary-school teachers and five years of secondary-school teachers. Unfortunately, increases in the amount of training have often been made without any significant changes in the purpose or character of the courses offered.

Far more fundamental is the effort of many institutions to reconstruct curriculums for teachers on a qualitative basis. To this end committees and research bureaus have been charged with the responsibility of defining the basic principles underlying the reconstruction of both the academic and the professional training required and of working out analytically and experimentally the details of such reorganization. The studies made thus far indicate that at least four general types of training are required in curriculums for teachers, which may be designated briefly by the following terms: a comprehensive general education, broad specialization in the subjects or fields taught, supplementary liberal education, and professional training. In connection with each of these types of training, appropriate personality traits should be cultivated.

A first requisite of an adequately trained teacher is a comprehensive general education which prepares for intelligent participation in contemporary social life. Among other things, general education should give students a clear understanding of the various social institutions and forces that affect modern life. It should acquaint them thoroughly with current social issues, cultivate a thoughtful, open-minded attitude toward these issues, and stimulate a desire to aid in their solution. It should acquaint students also with the methods of the physical and biological sciences and the contributions which these have made to social progress and to current habits and stand-

ards of living. Through the humanities students should acquire additional contacts with the intellectual, emotional, artistic, and recreational values of life. Obviously, such training is today highly desirable for all potential citizens. It is indispensable for teachers, who are charged with the responsibility of helping children and young people to similar acquirements.

In a sense, the foregoing proposal is not new. For many years a broad mastery of the general fields of knowledge has been a stated prerequisite for graduation from college. It has been assumed, however, that a person's general education is somehow extended through contacts with the diverse types of highly specialized courses offered. A recent study of the courses recommended for prospective teachers in approximately one hundred liberal-arts colleges and a corresponding number of teachers' colleges showed that in 90 per cent or more of these institutions the courses given at various levels are narrow in scope, emphasize logical relations within segments of fields, and are planned primarily for those who specialize in given departments. Recent efforts to reorganize instruction at the junior-college level distinguish clearly between general education and the training of specialists in subject-matter fields. These attempts are based on the assumption that most situations in life overlap various fields of knowledge. Consequently, the newer types of courses which have recently been announced cover broad fields and emphasize functional relations. They seek to provide the contacts and to cultivate the habits of thinking needed in contemporary life. Through a well-planned battery of such courses prospective teachers may secure a reasonably complete general education.

It is not sufficient, however, that teacher-training institutions merely adopt such courses into their curriculums; it is even more imperative that they participate actively in developing and refining the courses. The reconstruction of general education is clearly in an experimental stage. Its very nature and scope must be defined with clarity. The specific contributions which the elementary school, the high school, and the college should make to general education must be accurately determined. It is obvious that the content and the scope of the training given at the college level depend on what has already been achieved in the lower schools. It is clear also that no

institution which attempts to prepare teachers can escape the responsibility of participating in the study of these problems. As elementary and secondary education are expanded and improved in the near future, systematic general education will doubtless be completed before students enter college. During the transition period intelligent, co-operative effort is imperative. Since the content and methods of general education must be constantly revised in harmony with changing social needs, both liberal-arts colleges and teachers' colleges should continue indefinitely to co-operate in the expansion and refinement of general education.

The foregoing proposals have other implications of unusual significance to teacher-training institutions. The new plan of education assumes that the content of general education and standards of achievement will be defined clearly, that students will complete this phase of their education as rapidly as their previous training and capacity will permit, and that means will be developed of determining whether students have attained satisfactory levels of achievement before they are permitted to pursue more advanced work. If such steps are taken, it will be possible to limit registrations in professional curriculums to those who have made the contacts, acquired the understandings, and formed the habits of thinking toward which instruction in elementary and secondary schools is now directed. We cannot expect less of those who aspire to teach. Inasmuch as the present generation of high-school graduates have only partially attained the levels of achievement desired, at least the Freshman year in institutions that train teachers should, for the time being, be used in extending general education. In addition, steps should be taken to improve habits of oral and written expression; to modify reading and study habits, if necessary; and to remove deficiencies in such fundamental arts as writing, spelling, and number. Those who fall short of required standards should be directed into fields of specialization other than those appropriate for prospective teachers. It is also essential that guidance be provided during this period in selecting the field in which specialization will occur.

As soon as the foregoing requirements have been met, prospective teachers should begin extended studies in those subjects and fields which will not only prepare them broadly for teaching but enable

them to participate intelligently in the continuous expansion and enrichment of the curriculum. In the case of elementary-school teachers, advanced sequences should be pursued in all major fields which make up general education. In the case of secondary-school teachers, longer sequences in at least two fields are advisable. In a recent study of the adequacy of the academic preparation of teachers, the sequences offered in liberal-arts colleges were characterized as too narrow and highly specialized and those in teachers' colleges as either too meager or patterned directly after the traditional liberal-arts model. A careful analysis of contemporary needs suggests at least three desirable characteristics of advanced subject-matter sequences for prospective teachers.

The first is that they should provide both depth and breadth of training. In the past, specialization has usually been interpreted to mean the intensive study of a limited field of knowledge ordinarily within the boundaries of a single department. The advantage of this form of specialization is that it provides opportunity for students to penetrate deeply into selected fields. Most advanced sequences provided for prospective teachers today are of this type. Unfortunately, students who specialize narrowly often fail to interpret broadly what they learn, to see significant relations between fields, and to understand the application of the facts learned to contemporary problems. As modern life has become increasingly complex, new meaning and significance have been attached to the term "specialization." In some institutions today it implies not only depth of penetration into a given field but also breadth of understanding in related fields. In our own institution, for example, students pursue not only a sequence of six or more majors in the department of specialization but also a sequence of corresponding length in the division or field in which the department belongs. This plan was adopted on the assumption that it would insure both depth of training in a narrow field and breadth of understanding in related fields. Experience will doubtless show how both results can be secured even more effectively than is possible under the present plan. The fundamental obligations which society imposes on elementary- and secondary-school teachers make it imperative that they acquire breadth as well as depth of understanding.

Closely associated with the broader interpretation of specialization which has been presented is the demand that prospective teachers secure increasing insight into, and skill in the use of, two important techniques. The first has for its purpose the extension of knowledge in the subject studied. Each important academic field has "its own body of ideas, its own logic of organization, its own springs of human interest, and, if a living field, its own processes of growth and expansion."¹ It is highly desirable that students pursue knowledge to its frontiers, see knowledge in the process of making, feel the thrill of intellectual discovery, and be inspired to engage in productive study. These experiences are essential if students are to acquire the interests and understandings which will enable them to follow developments at the frontier in given fields. It would be fortunate, indeed, if all young people could come under the influence of teachers who make specific contributions from time to time in the subjects taught. A second desirable technique enables teachers to discover, organize, and interpret facts in various fields that contribute to an understanding or solution of broad problems. These techniques are of primary importance in revising and expanding both elementary- and secondary-school curriculums. Experience shows conclusively that, only as teachers are able to deal intelligently and constructively with curriculum problems, does teaching rise to higher levels of excellence. Unfortunately, a large majority of teachers today are virtually slaves to the textbook and to traditional methods relating to its use. They have never acquired the intellectual independence or the habits which are essential in moving freely from one sector of a field to another or indeed in going beyond departmental boundaries. The difficulties encountered in current efforts to develop broad courses at the junior-college level show that genuine problems are involved. The reconstruction of curriculums in the lower schools requires the use of similar methods of research and interpretation. Unfortunately, little has been done in most institutions to prepare teachers to assume such responsibilities intelligently.

Closely associated with the foregoing comments is the demand that wider provision be made for individual differences in capacity

¹ M. E. Jaggerty, "The Academic Phases of the Curriculum in 1950," *Eighth Year-book of the American Association of Teachers Colleges* (1929), p. 43.

The clubs may thus serve as natural avenues of expression for students pursuing interests in particular fields. Ultimately teacher-training institutions should be able to measure and describe in objective terms the breadth and quality of the liberal acquirements of their students.

As a supplement to the three types of academic preparation to which reference has been made, prospective teachers should receive appropriate professional training. In the past it was customary to assign students to such courses from the beginning of their college program. The traditional two-year curriculum for elementary-school teachers, for example, consisted largely of professional courses and so-called "review courses." Not infrequently high-school teachers took professional courses from the beginning of their college work and devoted from a fourth to a third, or even more, of their time to such work. During the last few years two distinct trends have developed. First, the amount of time devoted to strictly professional courses for both elementary- and secondary-school teachers has been greatly reduced in some institutions in response to the urgent demand for greater breadth and depth of training in subject-matter fields. As will be pointed out later, this change need not result in less efficient professional training. Second, the time of introducing professional courses into the student's program has been considerably postponed. It is apparent that strictly professional courses should not be offered until the requirements of general education have been completed, and preferably even much later. Justification for postponing most of the professional training until late in the student's program lies in the fact that problems relating to the content and methods of teaching at any level cannot be considered intelligently without a reasonably broad understanding of the subject-matter fields and relations involved. It is essential, on the other hand, that students recognize early the significance that the various phases of the curriculum which they are pursuing bear to their personal advancement and professional preparation.

Even more important than the time at which professional training is introduced are problems relating to its content and scope. In harmony with steps taken elsewhere, a committee of this institution was asked some time ago to make a special study of the professional

training that should be required. The problem which the committee set for itself was defined as follows: (1) to provide a sequence of sufficient breadth to give prospective teachers a basic understanding of their problems, (2) to present such a sequence in the shortest time commensurate with superior results, and (3) to organize the courses required into a progressive sequence with no unnecessary duplication. As a result of study and experimentation extending over a period of four years, the Department has tentatively concluded that an introductory study of education may be completed in two courses preceding special methods and practice teaching. The first is entitled "An Introduction to the Study of Education" and is planned to give the student an illuminating picture of the American school system and of classroom practices and problems. The second is entitled "Educational Psychology" and aims to acquaint students with basic facts about the child and the processes involved in learning. It is believed that through careful selection and presentation of materials these two courses will prepare adequately for the intensive study of professional problems in teaching special fields.

The adoption of this plan imposes large responsibility on special-methods courses. For purposes of illustration, reference will be made here to professional courses in high-school fields. Such courses should be based on the introductory professional courses already described and should proceed without duplication to studies of the educational significance of the subject or field involved and the professional problems which it presents. These courses should also follow or supplement a scholarly study of a wisely-chosen sequence of courses relating to the subject or field under consideration. This procedure is at variance with current recommendations to the effect that professional training in a field should be provided in so-called "professionalized subject-matter courses." The justification of the plan here proposed lies in the fact that each subject or field has its own logic and relationships, which merit chief consideration when subject-matter courses are taken. Furthermore, a student is prepared to consider the problem of enriching and vitalizing instruction in the lower schools only after he has studied a field broadly and is thoroughly familiar with its possibilities and relationships.

The reorganization of special-methods courses which has been

THE FUNDAMENTAL VOCABULARY OF ELEMENTARY-SCHOOL ARITHMETIC

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PURPOSES AND TECHNIQUES OF THE INVESTIGATION

At the time this study was undertaken four vocabulary investigations had been made: one by Haley,¹ one by Pressey,² one by Brooks,³ and one by Wilson.⁴ The authors of these studies seemed inclined to list *all* the technical words appearing in arithmetic textbooks, sometimes with indications of relative importance and sometimes without, rather than to suggest an essential "core" of words that are absolutely necessary. The total number of different terms secured from all these sources combined was over one thousand. It seemed to the writers that the available lists, totaling such a large number of different words, needed to be studied and organized in order that those words which are fundamental could be isolated from the many which obviously are not. To determine the words which should be included in a list of essentials, this study was undertaken. In the course of the work three criteria were used.

1. The frequency of each word in each study was considered. The four studies were so made that a mere addition of frequencies into a grand total was not possible. One study did not include a frequency count and consequently could not be used at this point. However,

¹ Maude Haley, "Technical Vocabulary of Public School Mathematics." Unpublished Master's thesis, Ohio State University, 1926.

² L. C. Pressey, *Special Vocabularies in the School Subjects*, No. 3. Bloomington, Illinois. Public School Publishing Co., 1924

³ S. S. Brooks, "A Study of the Technical and Semi-technical Vocabulary of Arithmetic," *Educational Research Bulletin* (Ohio State University), V (May 6, 1926), 219-22.

⁴ Unpublished data gathered by W. K. Wilson, New York State Department of Education.

it was probably better in any case to select words from each of the other three investigations separately and then to determine which words emerged as of high frequency in all three. Those words that occurred in the highest third in frequency in at least two of the three studies were, therefore, selected as being frequent enough to warrant at least temporary inclusion as essential words. From the original 1,040 words, 274 words were selected by this criterion.

2. All words, whether frequent or not, were next rated for importance. In this task the co-operation of over one hundred elementary-school teachers was obtained. Each teacher rated each word as "essential" if she thought arithmetic could not be taught without it, as "accessory" if she thought it important but not vital, or as "non-essential" if she thought it of little value or of no technical meaning. These reactions were then combined to give a rating of importance for each word. Those words were kept that were considered essential by half or more of the teachers. From the original 1,040 words, 326 were selected by this criterion.

3. As a final criterion, in addition to the frequency counts and importance ratings, every word was considered as to its "social usefulness," that is, usefulness in everyday life outside the classroom. In this connection various studies¹ of the problems actually met in everyday life were consulted to see what terms were needed in their solution. A study was also made of the research² showing what arithmetical vocabulary was necessary for work in chemistry or other courses involving mathematics. A very thorough and careful study by Himebaugh³ on the units of measure was of great service in the

¹ For instance, G. M. Wilson, "A Survey of the Social and Business Use of Arithmetic," *Second Report of the Committee on Minimal Essentials in Elementary-School Subjects*, pp. 128-42. Sixteenth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1917. See also Edward L. Thorndike, *The Psychology of Arithmetic*, pp. 1-26. New York: Macmillan Co., 1922.

² Luella Cole Pressey, "The Needs of Freshmen in the Field of Mathematics," *School Science and Mathematics*, XXX (March, 1930), 238-43.

³ Oscar Himebaugh, "A Vocabulary Study of the English and Metric Units of Measure Used in Secondary-School Science Textbooks," *Educational Research Bulletin* (Ohio State University), VI (November 9, 1927), 339-42, "Conclusion of the Vocabulary Study of English and Metric Units of Measure," *Educational Research Bulletin* (Ohio State University), VIII (April 17, 1929), 175-80.

corresponding section of the vocabulary list. From these various sources a rating of general social value was obtained for each word. By this criterion, only 103 words were selected.

The next step was to select those words that seemed to meet all three criteria—words that were frequent, important, and generally useful. When the 274 words selected on the basis of frequency, the 326 on importance, and the 103 on social value were combined, it was found that only 117 words met all three criteria (and 16 of these were questioned as to social usefulness). These 117 technical terms may, then, be regarded as the essential “core” of arithmetic words without which no child can progress in the subject.

THE RESULTS OF THE INVESTIGATION

For convenience in presentation, the words have been grouped according to related meanings. This procedure has not altered the number of words in the list but has merely rearranged them.

The starred words in the list are those which have reasonably high frequency and were rated as important by teachers but about which there is some question of general value outside the classroom. For teachers of arithmetic the entire list may be regarded as vital.

SECTION I. NOTATION AND NUMERATION

Roman numeral	zero	whole number
*unit	*square root	

SECTION II. OPERATIONS WITH INTEGERS

addition	*borrow	times
*carry	minus (take away)	divide
sum	subtract	
plus	multiply	

SECTION III. FRACTIONS

*cancel	common fraction	*terms
*common denominator	*improper fraction	reduce
*factor	invert	decimal fraction
*mixed number	numerator	tenths
*prime factor	denominator	hundredths
		decimal point

SECTION IV. UNITS OF MEASUREMENT

*avoirdupois	century	second
ton	annually	mile
ounce	quarterly	cubic inch
*rod	inch	cubic foot
acre	pound	nickel
*degree	foot	cent
peck	yard	dime
bushel	day	dollar
quart	year	square inch
gallon	month	square foot
pint	hour	square yard
dozen	minute	square mile
	week	

SECTION V. PRACTICAL MEASUREMENTS

height	base	scale
length	hypotenuse	circle
depth	circumference	square
width	diameter	rectangle
breadth	diagonal	triangle
*perimeter	radius	angle
area	pi	*sphere
dimensions	volume	solid
altitude	capacity	

SECTION VI. INTEREST AND PERCENTAGE

per cent	duty	face value
percentage sign (%)	customs	interest
profit	import	maker
commission	export	indorser
discount	policy	note
loss	premium	principal
tax	valuation	

SECTION VII. GENERAL

problem
solve
equal

PRACTICAL USE OF THE RESULTS

The list itself should prove valuable, but, in order to make easily possible the integration of these results with the regular school routine, the writers have constructed a test covering each of these 117 essentials. A few items from this test are here presented. It should be noticed that these test items do not call for a definition; neither do they involve complicated manipulations. The child shows

his understanding of a term by recognizing it in a simple and natural setting.

5. In the problem below, what number would you have to carry?

$$\begin{array}{r} 76 \\ 27 \end{array}$$

$$\underline{27}$$

17. Which problem tells you to divide one number by another?

$$\begin{array}{r} 426 \\ 78 \end{array}$$

$$\begin{array}{r} 322 \\ - 64 \end{array}$$

$$38 \overline{)179}$$

$$18 \times 13 =$$

24. Which of the following is read as "3 tenths?"

$$303,303$$

$$3\frac{1}{10}$$

$$.3$$

$$3\frac{1}{2}$$

29. If a thing happens annually how often does it happen? Twice a year ____
once a month ____ once a year ____ once every two years ____

68. An automobile salesman sold an automobile for \$1200. He received \$60, or 5%, for his sale. What is this \$60 called? Interest ____ commission ____ deposit ____ sale ____

It is hoped that teachers will make use of these materials in order to locate the weaknesses in the essential vocabulary of each pupil. A tabulation of the results item by item would show the teacher which words need further drill on the part of the entire group. If each child's errors are marked on his paper and the paper is returned, the child can then be instructed to find for himself the meanings of those words he has missed, such incidental help being given by the teacher as may be necessary.

In closing, the writers would like to stress the vital importance of technical vocabulary. They are convinced that one outstanding source of error in arithmetic problems and of antagonism toward arithmetic lies in the fact that the children do not know what the words mean. Most investigations of the matter seem to show that knowledge of subject matter and mastery of technical vocabulary go hand in hand. The teacher who wishes the children in her class really to master even simple arithmetic needs to make an effort to obtain complete understanding of these relatively few vital terms. It should, of course, be understood that this list contains only the minimal essentials. Presumably, there are other terms which it is desirable for children to know, but those given in the list are the words without which progress in arithmetic would be meager if not altogether impossible.

COMPUTATIONAL ERRORS MADE BY TEACHERS OF ARITHMETIC

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Many investigations have sought to discover the types of difficulties which pupils encounter in acquiring mastery of the fundamental tools of learning. However, no studies have been reported, as far as the writer is aware, showing the extent to which complete mastery of the tool subjects has been attained by the pupil's teachers. The purpose of the study reported in this article was to discover the nature and extent of computational errors which teachers of arithmetic make in solving examples of types frequently found in life-situations. It seems conceivable that many of the learning difficulties exhibited by pupils might be readily overcome if the teachers themselves were expert in the abilities which are the implied outcomes of the subjects taught.

During the first term of the summer school at Miami University in 1930, the Guiler-Christofferson Diagnostic Survey Test in Computational Arithmetic was given to thirty-seven students who were enrolled in the writer's course in educational and mental tests. The arithmetic test covers five phases of computation: (1) whole numbers, (2) fractions, (3) decimals, (4) practical measurements, and (5) percentage. Five abilities are included in each part of the test, and each ability is measured by means of two examples. Each example has a value of one point, the highest possible score being fifty points. The particular abilities measured by the test can readily be inferred from the examples listed in Table III.

Of the thirty-seven students who took the test, twenty-two had taught arithmetic, along with other subjects, in the public schools of Ohio during the regular school year that had just closed. All these in-service teachers were high-school graduates and had had one or more years of professional training. One of the teachers had taught

in the ninth grade; four, in the eighth grade; two, in the sixth grade, one, in the fifth grade; four, in the fourth grade; three, in the third grade; five, in the second grade; and two, in the first grade. The data on which this study is based were derived from an analysis of the test papers of the twenty-two teachers, whose scores on the test are presented in Table I.

A comparison of Table I with the standards given in Table II reveals a number of significant facts. First, the median score for the twenty-two teachers was slightly below the standard median for college Sophomores. Second, there was marked variation in achieve-

TABLE I
DISTRIBUTION OF TWENTY-TWO TEACHERS ACCORDING TO SCORES
ON THE GUILER-CHRISTOFFERSON DIAGNOSTIC SURVEY
TEST IN COMPUTATIONAL ARITHMETIC

Score	Number of Teachers	Score	Number of Teachers
50	1	34	1
49	1	31	1
47	2	28	2
45	1	25	1
44	1	23	1
43	1	22	1
42	1	20	1
41	1	13	1
40	1		
38	1	Mean	35 5
35	2	Median	37 0

ment; the highest score was almost four times as large as the lowest score. Third, some of the teachers manifested outstanding ability in computation; one-half of them reached or exceeded the median standard for college Sophomores, and one teacher made a perfect score. Fourth, several of the teachers exhibited marked weakness in computation. The median standard for college Freshmen was not attained by five of the teachers; four fell below the standard for the ninth grade, which marks the last year of the junior high school; and one teacher's score was less than the standard for the fifth grade.

Two examples were used to measure each of the twenty-five abilities included in the diagnostic-survey test, the examples being arranged in cycle form. The examples comprising the first cycle, together with the number and percentage of teachers who failed to

obtain the correct answer to each example, are given in Table III. Several striking facts are revealed by an analysis of this table. First, there was a wide range in the percentages of wrong answers that were obtained for the various examples listed in the table; the percentages ranged from 0 in the case of Example 13 to 68 in the case of Example 7. The average percentage of incorrect answers on all the examples presented in the table is 33.8. Second, many of the examples were solved incorrectly by a considerable proportion of the twenty-two teachers. One example (No. 7) was missed by more than two-thirds of the teachers; six examples (Nos. 5, 7, 14, 17, 19,

TABLE II
GRADE STANDARDS FOR GUILER-CHRISTOFFERSON
DIAGNOSTIC SURVEY TEST IN COMPUTATIONAL ARITHMETIC

Grade	Standard Median Score
College Sophomore	37.5
College Freshman	26.4
XII.	25.0
XI	24.7
X.	23.8
IX.	23.5
VIII.	22.5
VII	19.1
VI	16.9
V.	15.3

and 23) were missed by one-half or more of the teachers; and twelve examples (Nos. 2, 3, 5, 6, 7, 14, 17, 18, 19, 23, 24, and 25) were missed by more than one-third of the teachers. Only eight of the twenty-five examples (Nos. 4, 8, 10, 11, 12, 13, 20, and 21) were missed by less than one-fourth of the teachers. Third, when the fundamental operations are considered, it is found that more wrong answers were made in the case of examples involving subtraction and division than in the case of examples involving addition and multiplication. On the basis of the incorrect answers given to the first twenty examples in Table III, the four operations rank in the following order: division, subtraction, addition, and multiplication. Fourth, when the five major parts of the test are considered, it is

found that the examples dealing with practical measurements had the largest number of incorrect answers and that the examples deal-

TABLE III
NUMBER AND PERCENTAGE OF TWENTY-TWO TEACHERS MAKING ERRORS ON
EXAMPLES IN FIRST OF TWO CYCLES COMPRISING THE DIAGNOSTIC-
SURVEY TEST IN COMPUTATIONAL ARITHMETIC

EXAMPLES COMPRISING THE FIRST CYCLE*	TEACHERS MISSING EXAMPLES	
	Number	Per Cent
Part I—Whole Numbers:		
1. Add 2689, 7655, 7974, 3279, 8868, 2697 . . .	7	32
2. Subtract 95849 from 185744	8	36
3. Multiply 4608 by 89	8	36
4. Divide 31625 by 4 and show remainder	5	23
5. Divide 67092 by 86 and show remainder	13	59
Part II—Fractions:		
6. Add $7\frac{3}{8}$, $14\frac{1}{2}$, $23\frac{1}{4}$	8	36
7. Subtract $6\frac{3}{8}$ from $12\frac{1}{4}$	15	68
8. Multiply $3\frac{3}{8}$ by $1\frac{1}{2}$	4	18
9. Divide $7\frac{1}{2}$ by $2\frac{1}{2}$	7	32
10. Change $8\frac{1}{2}$ to an improper fraction	1	5
Part III—Decimals:		
11. Copy and add. 89.8, 268.75, 76, and 35.6	4	18
12. Copy and subtract 3.83 from 8.6	3	14
13. Place a decimal point in the following product $7.06 \times 2.7 = 19062$	0	0
14. Place a decimal point in the following quotient: $986.79 \div 2.667 = 37$	11	50
15. Change $\frac{1}{10}$ to a decimal. Carry answer to three decimal places	7	32
Part IV—Practical Measurements:		
16. Copy and add (give answer in lb and oz) 2 lb; 3 lb. 8 oz.; 10 oz.; 2 lb. 4 oz.	6	27
17. Copy and subtract (give answer in hr. and min.): 2 hr. 42 min. from 8 hr.	12	55
18. Copy and multiply (give answer in ft. and in.): 1 ft. 7 in. by 8	8	36
19. Copy and divide (give answer in bu and pk) 11 bu 2 pk. by 4	13	59
20. Reduce 100 oz to lb. and oz.	5	23
Part V—Percentage:		
21. $7\frac{1}{2}\%$ of \$250 = \$_____	5	23
22. 14 games is _____% of 16 games	6	27
23. $5\frac{1}{2}$ of _____ = 66	11	50
24. 20% less than \$4.80 is \$_____	9	41
25. An increase from \$16 to \$20 is _____% increase	10	45

* Each of the twenty-five abilities included in the test is measured by two examples arranged in cycle form. Only the examples comprising the first cycle are presented in this table.

ing with decimals had the smallest number of incorrect answers. Fifth, the example in whole numbers that was missed most frequently involved long division; the example missed most often in fractions

and mixed numbers involved subtraction; the most difficult example in decimals involved placing the decimal point in division; the most difficult example in practical measurements involved division of denominate numbers; and the most difficult example in percentage involved finding a number when a percentage of the number is known.

The major divisions of the diagnostic-survey test and the individual teachers who failed to obtain correct answers to all the examples listed under each division in Table III are shown in Table IV. A study of Table IV shows that the teachers varied widely in ability to work correctly all the examples listed in each division. Thus, one of the twenty-two teachers made a perfect score, and two other

TABLE IV
MAJOR FIELDS OF COMPUTATIONAL ARITHMETIC IN WHICH
INDIVIDUAL TEACHERS MADE ERRORS*

FIELD	TEACHER																						TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Whole numbers				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	19
Fractions				X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	18
Decimals																							13
Measurements				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	19
Percentage		X	X		X		X		X	X	X	X	X	X		X	X	X	X	X	X	X	17
Total	0	1	1	3	3	4	3	5	5	5	5	5	5	5	4	5	5	4	5	5	5	5	86

* The numbers in the top horizontal row refer to individual teachers who took the diagnostic survey test. Each cross means that some teacher failed to obtain a correct answer to one or more of the five examples in some one of the five groups of examples presented in Table III.

teachers made errors only in the examples in which percentage is involved; on the other hand, twelve teachers made errors in one or more examples in each part of the test. Further study of Table IV shows that marked individuality characterized the phases of computational arithmetic in which errors were made. Teachers 4 and 5, for instance, each made errors in three fields of computation; analysis shows, however, that in only two fields were errors made by both teachers.

Table V shows the individual teachers who made errors in working each of the twenty-five examples presented in Table III. A number of salient facts are disclosed by a study of Table V. One fact is that the teachers varied greatly with respect to the total number of examples in which errors were made. Teacher 1, for instance, made

a perfect score; on the other hand, Teacher 22 missed twenty-one of the twenty-five examples. Individual differences are also pronounced when the different groups of examples are considered. Thus,

TABLE V
EXAMPLES ON WHICH INDIVIDUAL TEACHERS MADE ERRORS*

EXAMPLE	TEACHER																						TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Whole numbers:																							
1.....								X		X					X			X		X	X	X	7
2.....							X	X				X		X					X	X	X	X	8
3.....						X	X					X		X		X	X			X	X	X	8
4.....								X				X		X		X	X				X	X	5
5.....				X	X				X		X		X	X			X	X	X	X	X	X	13
Number missed	0	0	0	1	1	1	2	4	1	1	3	1	2	3	2	3	2	2	3	3	5		41
Fractions:																							
6.....						X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	8
7.....							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
8.....				X			X						X	X	X	X	X	X	X	X	X	X	4
9.....							X						X	X	X	X	X	X	X	X	X	X	8
10.....																					X	X	1
Number missed	0	0	0	1	0	1	1	2	2	2	1	1	2	3	4	2	2	2	1	2	2	5	36
Decimals:																							
11.....													X	X	X				X				4
12.....													X				X		X				3
13.....																							0
14.....									X	X	X	X	X	X	X	X	X	X	X	X	X	X	11
15.....								X		X	X	X	X	X	X	X	X	X	X	X	X	X	7
Number missed	0	0	0	0	0	0	0	1	1	2	1	4	2	2	1	2	0	2	4	2	1		25
Measurements:																							
16.....											X					X	X	X	X	X	X	X	6
17.....				X	X			X		X	X	X		X	X	X	X	X	X	X	X	X	12
18.....									X	X	X	X		X	X	X	X	X	X	X	X	X	8
19.....				X	X	X				X	X	X	X	X	X	X	X	X	X	X	X	X	13
20.....					X	X			X							X				X	X	X	5
Number missed	0	0	0	1	2	2	1	1	2	3	4	2	1	2	2	3	2	4	3	1	3	5	44
Percentage:																							
21.....					X						X						X		X	X	X	X	5
22.....										X	X	X					X	X	X	X	X	X	6
23.....			X						X	X	X	X	X	X	X	X	X	X	X	X	X	X	11
24.....		X								X	X	X				X	X	X	X	X	X	X	9
25.....						X		X			X	X				X	X	X	X	X	X	X	10
Number missed	0	1	1	0	1	0	1	0	2	2	1	2	2	0	3	2	4	4	4	4	5		41
Total number missed	0	1	1	3	4	4	5	7	8	9	9	9	10	11	11	11	12	12	14	14	21		187

* The numbers in the first column refer to the various examples listed in Table III, those in the top horizontal row refer to individual teachers who took the diagnostic-survey test.

while three teachers made no errors in any of the examples involving whole numbers, one teacher missed all five of these examples. A second fact is that the teachers manifested marked individuality in the specific examples in which errors were made. Teachers 11 and 12 each made errors in nine examples; however, errors were made in only four of the examples by both. A third fact is that more teachers obtained correct answers for all five examples in the part of the test involving decimals than in any of the other groups of examples.

One of the most interesting phases of this study consisted in an attempt to discover the nature of the computational errors that were made. The following case studies reveal the types of errors made by three of the teachers in working the first three groups of examples found in Table III.

Case 1.—In Example 1 the teacher failed to carry a number in the tens' place. In Example 3 a wrong response was made to a number combination ($8 \times 4 = 42$). In Example 6 an error was made in changing a fraction to one having a larger denominator ($\frac{1}{4} = \frac{3}{4}$). In Example 7 the teacher failed to find the least common denominator. In Example 14 the decimal point was incorrectly placed in the quotient. In Example 15 the teacher failed to carry the answer to three decimal places as directed.

Case 2.—In Example 1 three errors were made. One of the errors was caused by failure to carry a number in the tens' place; the other two errors were caused by wrong reactions to number combinations. In Example 5 an error was made in the subtraction phase of division ($670 - 602 = 72$). In Example 7 the teacher used the wrong process—adding instead of subtracting. In Example 9 an error was made in changing an improper fraction to a mixed number ($\frac{45}{4} = 42\frac{3}{4}$). In Example 11 two errors were made in copying figures in proper column order. In Example 12 an error was made in copying (.6 being written .06). In Example 14 the error was caused by incorrect placement of the decimal point in the quotient (the answer being written as 37 instead of 370). In Example 15 the dividend and the divisor were reversed.

Case 3.—In Example 1 the error was caused by a wrong reaction to a number combination. In Example 2 two errors were made

($185744 - 95849 = 89995$). In Example 3 three errors were made. One was in a multiplication combination, and the other two were in the addition phase of multiplication. In Example 5 two errors were made. One consisted in failure to use a zero in the quotient, and the other was an error in subtraction. In Example 6 an error was made in reducing an improper fraction to a mixed number ($\frac{31}{4} = 1\frac{3}{4}$). In Example 7 the error was caused by failure to borrow in subtracting $6\frac{3}{8}$ from $12\frac{1}{8}$. In Example 9 three errors were made. One consisted in failure to convert properly a mixed number to an improper fraction; another consisted in failure to invert the divisor; and a third error was made in cancellation. In Example 14 an error was made in the placement of the decimal point in the quotient.

EXERCISES IN READERS

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All modern reading books contain reading exercises as well as the usual story or fact material. Some books feature such exercises, and some treat them as merely incidental to the usual reading matter. The exercises are of many types, and different books contain different assortments of these types. In this situation supervisors and teachers of reading may well pause to consider just what are the values and the functions of reading exercises. How are the exercises related to the purposes of the school or to the work in reading? How does the function of one type differ from that of another? The following analysis tries to give an answer to these questions.

Separate and distinct consideration must be given to (1) reading tests used for survey or diagnostic purposes, (2) reading exercises used for seat work in the usual school or in schools using systems of individual progress in reading similar to that called the "Winnetka Plan," and (3) exercises in the school reader intended for the teaching of reading according to the methods generally used throughout the country. Exercises of the third type are here under discussion, and a further limit is placed on the discussion by the fact that only exercises appearing in readers for the primary grades are dealt with. It may be that principles to be followed in those grades would not apply at a later period in the teaching of reading. Accordingly, the writer will list and evaluate the considerations that may or should determine what kind of exercises should be used in readers for the primary grades.

Custom.—As soon as some readers included exercises, all readers had to use them. Each new series or each revision of an old series gave at intervals some activities that could be called "reading exercises." Sheer imitation showed itself in the varied and miscellaneous character of the exercises. All sorts of "stunts" were devised. One book copied from all previous readers. Perhaps this procedure

should not be too severely criticized since it is typical of much school activity, the aim being merely to give children something to do without much questioning of why they should be doing it or why they should be doing one thing rather than another. After the amount of experimentation which has been done with exercises in school readers, it is time to ask just why there should be exercises and just what the exercises should be.

Testing.—In the primary grades the child's ability to read a sentence or a page is usually tested by having the child read it aloud. This test will continue to be the usual test because it is the simplest, quickest, and most natural. By oral reading, every page of a primary reading book is tested. Every child is tested in this way every day. Thus, the teacher should know at any time what a child's abilities and difficulties are. Why, then, should the occasional exercise page be considered a test of reading in anything like the usual meaning of testing?

The situation is different in the case of any book designed entirely for seat reading or for use in schemes of individual progress. In that case there is no oral-reading check on what the children are doing. Books intended strictly for such reading should be used with real reading tests in order that the children's progress may be checked and their difficulties discovered. Such tests might be placed in the books, but experience indicates that individual reading tests need to be of such length and thoroughness that they must be issued separately. Their proper application as tests also requires that they be separate from the book. Since this article is concerned not with seat work nor with individual reading but with primary reading as usually conducted, the exercises included in reading books intended for the usual primary class cannot be considered suitable for testing seat work.

From another point of view it is evident that the testing value of the reading exercises in the book would be negligible indeed. Suppose there are ten or a dozen items in an exercise. There will be fifteen to twenty children in the reading class. If some children fail when called on, each child may be tested on a single item. How well would his reading ability be tested? Obviously the testing value of a page of items when employed in the usual class is so slight as to

deserve no serious consideration as compared with the testing given by constant oral reading five days a week.

Though it may be admitted that reading exercises in primary books can hardly be included for the purpose of testing reading, it must be realized that the forms of the exercises have largely been copied from reading tests. This procedure has been natural since most makers of readers have merely looked about for some form of "stunt" without considering thoroughly the purposes to be served. Teachers must beware, therefore, of the tendency to copy reading tests without reason. Authors of readers may use the same forms as the tests, but they should have a different reason for doing so.

Interest.—It is doubtless true that exercises add interest both to the reading book and to the learning of reading. They may accomplish this result merely by giving variety and novelty. Pictures of interesting kinds can be used. The exercises can have the appeal of a game, for example, riddles and some multiple-choice exercises. They can have the humor that goes with nonsense sentences, as do some multiple-choice exercises, some matching exercises, and many true-false or "yes-no" statements. They can call for all sorts of interesting activity in the form of handwork or of plays and games.

Since, then, the supplying of interest is a function of exercises in readers, we should ask: "To what extent do the reading books need this addition? Is the provision of an exercise after each selection enough to add interest? Should more exercises be provided at the back of the book? Do the selections themselves provide enough interest and variety so that an exercise between selections is not always needed for this purpose?" We should also ask, "Which are the most interesting kinds of exercises?" Research to determine the kinds of exercises liked best by children would be valuable. Of course, the teachers can be asked which kind the children seem to like best.

Finally, it may be said that interest alone will not justify reading exercises. The exercises must also contribute to the teaching of reading, and this contribution should be at least as great as that made by a page of regular text.

Word recognition.—To teach children to recognize words which they have not previously seen or to recognize more swiftly words which they have already seen is the chief problem of primary-reading

instruction. If the whole reader is to teach word recognition, the exercises particularly should contribute to this end. In two ways, at least, reading exercises can teach word recognition better than an equal amount of text.

First, words that should be reviewed can be repeated. The text reviews words by bringing them up in the story, but it cannot do this sufficiently with all words. Some words simply cannot be repeated an adequate number of times in the text or cannot be repeated at properly spaced intervals. Nevertheless, the words must be seen and recognized again by the children in order that they may not forget the words. Here reading exercises fill an imperative need. Because the sentences of the exercises need have no particularly close connection with one another, almost any desired words can be used. Word forms on which practice is needed can again be associated with their sound, and their appearance or makeup can be examined more closely. Thus, the previous work on these forms may be preserved from loss.

Second, reading exercises can help teach word recognition through word comparison. Multiple-choice items with the same beginnings and endings or with other similar parts require that the children practice word analysis and consequently learn the makeup of words which they have previously recognized by general outline. This practice is something that the exercises can give which the usual text cannot. The only difficulty is that the occasional exercise cannot do the job nearly well enough. Only a set of seat-work exercises can carry on word comparison adequately. Nevertheless, the exercises in the reader may well suggest this method of teaching word recognition to the teacher who does not have seat-work exercise pads. For this purpose alone occasional word-comparison exercises are justified.

Exercise pages arranged as a picture dictionary, little sketches illustrating words appearing beneath or beside the drawings, may also be used to teach word recognition. They may serve the purpose of introducing new words, at the same time lightening the new-word burden of the pages to follow. However, when a new word is introduced in this way, the child is likely to look only at the general outline or appearance of the word. Such knowledge may serve for a

time but will soon have to be supplemented by more detailed knowledge of the word form such as is provided by word comparison.

Thinking and self-expression.—Is the purpose of the reading book merely to teach word recognition? Makers of readers and all progressive school men agree that it is not. The school reader must also give the children knowledge of the world about them or of the world of stories that should be the heritage of all children. This knowledge is not to be transmitted, however, by a "pouring-in" process, as an older psychology imagined. If reading is to be truly educative, there must be reaction, or *thinking about it*, on the part of the children. Teachers know that many children think about what they read because they ask questions or tell their thoughts. It is not enough, however, to leave this activity to chance or to the haphazard responses made by the children of their own accord. Good teachers have always "discussed" or "talked over" the reading material, stimulating thinking and suggesting questions, problems, or interesting reflections on it. All teachers should be encouraged to do the same thing, that is, not simply to talk about the selections but to cause the children to think and talk about the reading material. Teachers' manuals help teachers to perform this task, but reading exercises can also assist. In fact, the aim of the reading exercises should be to cause thought and discussion, since the reader is in the hands of all the pupils and the questions in it have a greater force than those asked orally by the teacher.

The reading exercise that requires only recognition cannot be said to produce much thinking. Riddles and most multiple-choice and matching exercises are of this type. True-false and "yes-no" exercises also are usually handled by mere recognition. Completion exercises require recall but often no judgment. Questions are more likely to cause thinking, but not if they merely call for locating and reading part of the selection. Real thinking is required by questions that call for telling part of the story, since they require selection of material and selection of words to use in the telling. Much better are questions that call for explanations of some sort. These questions may ask for things not in the story, such as reasons for the actions of the characters, the probable sequel to the story, or the pupil's reasons for liking a particular character.

Questions that require more than a word in answer give practice in self-expression. This practice is most important, as it has been pointed out that children's growth in consecutive thinking probably depends largely on their opportunities for consecutive speech. Good teachers have always felt the importance of letting little children "tell things." The reading exercise can help insure that all teachers will give children opportunities for this kind of growth.

Study.—Some reading books are called "study readers" and feature exercises that require either memory of details or the looking-up of these details in the selections read. In this respect these books resemble reading tests which attempt to measure comprehension by asking detailed questions about a paragraph read. The purpose of such study readers is said to be to "train in careful reading" or to "increase comprehension" or the like. We should frankly face the fact, however, that the immediate result is to produce slow reading and to put a premium on memory. Asking for details can have no other result.

Whatever be our attitude toward the teaching of study in the later grades, we can all agree that in the primary grades little emphasis on the memorizing type of study is required. The material is still so simple and so easily visualized that remembering comes easily enough. Instead, the thinking type of study is needed. Habits of *reaching* to reading should be cultivated rather than habits of *repeating* what is read. From this point of view, the preceding section discussing exercises to produce thinking covers the question of study in these grades.

Seat work.—Should exercises in reading books give directions for seat work? The question may have several answers. First, seat work cannot be much assisted by a half-dozen or a dozen reading exercises. Modern seat-work pads must provide from seventy to one hundred pages for one semester's work, one page for each day. Therefore, even if several reading books were used each semester, the exercises providing for seat work could not take the place of work pads or other provisions.

Nevertheless, many primary readers provide exercises giving directions for cutting, drawing, folding, coloring, etc. These exercises tend to increase interest in the reading book rather than to teach

reading because each exercise *follows* the story. In fact, it may even be said that the reading makes the seat work interesting rather than the reverse. That the seat work can be a true help to reading is shown by the fact that one series of readers has made a strong appeal by consistently putting seat-work units *before* the stories. Thus, not only is interest in the stories aroused but preparation for their vocabulary is also made. This result is accomplished, however, by seat-work pads rather than by exercises in the books.

If the reading is to be used to help the seat work, a long series of seat-work projects should be described in the manual for the teacher. This series should give something for the children to do at their seats every day and give a sufficient number of activities to enable the teacher to choose seat work which she likes and for which she has facilities.

Directions for plays and games.—Exercises that give directions for games, dramatizations, and the like may be compared to those providing seat work in that the reading book must fit in somehow with a program which is larger than the reading itself. In every class the teacher needs a rather definite program of social activity. To suit her class, this activity must be of a certain kind. Social activities must be given often enough to relieve monotony but not often enough to destroy concentration. The program must be planned to secure certain habits and attitudes. It must, in any case, suit the teacher's own ideas and abilities. The reading exercises cannot assist much with this classroom program. The teacher will require many classroom games; at best, a reading exercise can only occasionally suggest a game. At times the social activity will be a dramatization of some kind. The stories in the reader furnish excellent materials for this purpose, but a page addressed to the children cannot utilize these materials nearly enough. Again, these activities ought to be suggested in the teacher's manual. There let many complete plays and games be fully described, and let the teacher use these at the most opportune times. Only in this way can the reading material be of the greatest classroom use.

Summary.—The considerations that should apply in determining the kinds of exercises to be given in readers for the primary grades may be summarized as follows: (1) Custom, though a common de-

termining factor, should not have weight. (2) Testing should not be the aim of the reading exercises in primary readers because these exercises cannot and need not perform that function. (3) Interest should be supplied by the exercises, though the exercises should also teach reading. (4) Word recognition should be taught by the reading exercises by the use of word repetition, word comparison, and matching with pictures. (5) Thinking and self-expression should by all means be required by the reading exercises. Questions that require extended original answers are especially useful in securing thought and expression. (6) Study is best taught in the primary grades by exercises that require thinking rather than by exercises that require detailed reading. (7) Seat work cannot be adequately or profitably provided by reading exercises. (8) Plays and games, like seat work, require an extended program that goes far beyond the possibilities of reading exercises.

It must be concluded, therefore, that primary reading books which are to be used as basic readers are commonly used should provide exercises designed to provide (1) interest, (2) word recognition, and (3) thinking and self-expression. Seat work and plays and games can be included occasionally as suggestions to the teachers of what can be done in those directions.

Educational Writings

REVIEWS AND BOOK NOTES

Kindergarten-primary education.—In recent years school officials have given increased attention to the problems of articulation of the divisions existing in school systems. For persons particularly interested in articulated programs of learning for children from four and a half to nine years of age, a recent monograph¹ by Julia Letheld Hahn will be found helpful. It includes four distinct units: (1) sketches of the growth of kindergarten-primary education and certain aspects of related specialized supervision, (2) integrations of selected theories regarding (a) the nature of kindergarten-primary education and (b) the nature of supervision, (3) changes occurring in the organization of kindergarten-primary education in San Francisco primarily during the period of Miss Hahn's service as the supervisor in charge, and (4) questionnaire studies of the teachers' reactions to the various supervisory activities utilized in the supervisory program.

Chapter i, dealing with the first unit, illustrates in a practical way the manner in which a supervisory officer endeavors to study trends in the fields of her special interests. It indicates a method of obtaining value from existing educational literature. Because of all the demands which the author was apparently striving to meet in the writing of her dissertation, the historical treatment is necessarily not exhaustive. The reader will miss, for example, references to the writings of pioneer workers in the same field, such as Sarah Ann Dynes, Alice M. Krackowizer, Ethel I. Salisbury, and Margaret E. Wells.

Chapter ii, covering the second unit, exemplifies the method of study of a supervisor endeavoring to formulate her own workable conceptions of what kindergarten-primary education should be and what supervisory activities should be followed in attempting to establish a desired program. The brief treatment is limited to sources which were either all that were made available to the author during and after the time she was carrying on her supervisory program or to those that best illustrate the points of view included in the chapter.

The next two chapters present primarily a running account of the activities

¹ Julia Letheld Hahn, *A Critical Evaluation of a Supervisory Program in Kindergarten-Primary Grades*. Teachers College Contributions to Education, No. 495. New York: Teachers College, Columbia University, 1931. Pp viii+148 \$1.50

of a supervisor at work, together with concrete illustrations of the activities. Supervisors of kindergarten-primary grades will find the materials of practical help. In making plans for supervisory programs, they will obtain valuable suggestions also from the data in chapter v. In it are specific reactions of teachers to each type of supervisory activity which the author had included in her program. Chapter vi is a brief summary of the materials presented in the five preceding chapters.

In each of the four units of the volume will be found many practical suggestions. The book should be read by various supervisory officers who have responsibilities in a program of kindergarten-primary supervision. Because the author felt it necessary to treat all four units in a brief space rather than to confine her efforts to an exhaustive research involving any one of the units, the volume falls short of the reviewer's conception of a Doctor's dissertation. Perhaps this weakness is due to the fact that the author felt herself under the necessity of meeting the demands of a committee possessing divergent interests. If the reader overlooks this marked weakness and gives his attention to the practical helps abounding in the book, he will find it more than worth his while.

GEORGE C. KYTE

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Source materials for the study of the history of education.—A recent series of carefully edited volumes presents selections from the writings of men who have been interested in educational reform. Much of the material presented has been available to only the few who enjoy unusual library facilities. One volume of this series is devoted to the life and works of Henry Barnard, the great champion of the cause of education, whose service extended over nearly two-thirds of the nineteenth century.

The book contains a very brief sketch of the life of Barnard and a large number of excerpts, with editorial notes and introductions, from his writings. The selections are grouped under the following headings: "Public Interest in Education, Its Extension and Stimulation"; "Sociological Factors Conditioning Education"; "General Aims of Education"; "Grading of Schools"; "Public and Private Schools"; "Methods of Instruction"; "The Curriculum"; "Teachers"; and "Educational Administration." The materials are well selected, and the organization is excellent.

Unfortunately, the editor found it necessary to take practically all the selections from Barnard's early works. More than forty pages of the *Report on the Condition and Improvement of the Public Schools in Rhode Island* (1845) is reproduced in various sections of the book. A dozen or more short articles published in the *Connecticut Common School Journal* during the period 1838-41 are quoted. A large number of selections are taken from Barnard's four annual reports as secretary to the Board of Commissioners of Common Schools in Connecticut

¹ *Henry Barnard on Education*. Edited by John S. Brubacher. New York: McGraw-Hill Book Co., Inc., 1931. Pp. x+298. \$2.25.

for the years 1839-42. Several extracts are drawn from his annual reports (1850-53) as superintendent of common schools in Connecticut. Little else is reproduced, and very few references are made to writings published after 1853. The editor has been successful, however, in producing an interesting and valuable book.

Four pictures of Henry Barnard—two of them generally unknown—add considerably to this attractive and stimulating volume.

HERMAN G. RICHEY

The hard-of-hearing child.—In every public school, doubtless, there are children who suffer from physical handicaps not severe enough to call for segregated instruction but capable, nevertheless, of becoming the source of serious school-room problems. The published report of a recent study¹ made in two New York public schools, under the sponsorship of Rudolf Pintner, concerns itself with the intelligence, school achievement, and certain personality traits of one such type of pupil, the child who is hard of hearing.

The monograph contains seven chapters. The first three define the problem, summarize previous pertinent research, outline the method of the present study, and describe the technique used by the author in testing auditory ability. Chapters iv, v, and vi present his findings, and chapter vii presents general conclusions. A bibliography is included.

This investigation is by no means the first to compare the intelligence and school achievement of hard-of-hearing children and children of normal hearing. In method, however, it represents an advance over previous studies in that its comparisons of intelligence are made with the factors of age, race, sex, and parents' general occupational status controlled, while its comparisons of school achievement are made with the additional factor of intelligence, as represented by the Stanford-Binet intelligence quotient, held constant. Moreover, the criteria of school achievement used are the scores on the Stanford Achievement Test rather than age-grade status or success in the work of a grade.

The author reaches conclusions that are somewhat at variance with popular opinion and with interpretations often placed on the findings of previous studies. He finds that the intelligence of the hard-of-hearing child is of the same quality as the intelligence of the child of normal hearing, for, although the former has a lower intelligence quotient on the Stanford-Binet test, the difference is so slight as to be of no significance in individual prediction. He finds that poor hearing does not affect school achievement. On the basis of teacher judgments, he finds that, although the hard-of-hearing child is likely to be shy and solitary and although he is never chosen as a leader, he does not differ from the normal child in attentiveness, quickness of obedience, or general social attitude.

¹ Richard Madden, *The School Status of the Hard of Hearing Child: An Analysis of the Intelligence, the Achievement, and Certain Personality Traits of the Hard of Hearing School Child*. Teachers College Contributions to Education, No. 499. New York: Teachers College, Columbia University, 1931. Pp. vi+64. \$1.50.

Acceptance of the author's conclusions will wait, no doubt, upon the corroborative evidence of further research. Meanwhile, the study cautions teachers against ascribing to the child who is hard of hearing other characteristics which may exist only in the mind of the teacher.

DAVID A. LANE, JR.

Anger reactions in young children.—As the author of a recent book¹ states, few quantitative studies have been made of anger. Most studies of the emotions of children have been of the descriptive type except for the studies made by Watson and others in preschool laboratories. With this fact in mind, the author developed a record sheet on which the parents of forty-five children recorded the manifestations of anger over a period of approximately thirty days. The daily record sheet which the parents filled out appears to be objective in that specific questions are asked with the request that specific instances be mentioned. Analyses are made of the behavior of the children during their anger reactions, the factors determining the variability of anger, the causes, the methods of control, and the influence of parent-child relationships.

The author evidently is concerned with the possible criticism that parents are not always in position to make reliable statements about their children. Anticipating this criticism, she states that these parents were, on the whole, intelligent and worked on the experiment with seriousness and diligence. She also states that she has no reason to believe that the records are not as complete and as reliable as those any trained workers could obtain. Perhaps this is so, but from the experiences of others this statement must be challenged, for the fact that the parents kept records of the actions of their own children possibly influenced their responses in no small measure. Although the records were objective in the sense that they required specific statements, this precaution does not prevent the personal element from entering into record-keeping. In Table VI (page 56) the percentage of the total number of outbursts for girls under one year of age as reported by the parents is 0.8 and for both sexes, 0.7. The total number of cases is one for boys and one for girls. In Table XV (page 140) the number of outbursts for boys under one year of age is two, and the percentage of the total is 0.1. Perhaps the small number of cases in these examples might make the reader doubtful of the reliability of the data.

Many of the discussions are excellent, and it is unfortunate that the author did not expand this book into a general treatise on the problem of anger instead of spending so much time on the records. Perhaps the style of book-writing is changing, for in the past such a report would have been made in one or two magazine articles. The explanation of the different effects of various social attitudes on the behavior of boys and of girls is brought out in an interesting and constructive way. Such data will go far toward discouraging speculative theories

¹ Florence L. Goodenough, *Anger in Young Children*. Institute of Child Welfare Monograph Series, No. 9. Minneapolis, Minnesota: University of Minnesota Press, 1931. Pp. xiv+278. \$2.50.

regarding innate sex differences. Other discussions also are developed interestingly, and, on the whole, the book is sound. The volume illustrates well what can be done with the records of parents. We ought to have many such studies, for much information ordinarily overlooked can be obtained in this way. Most of us believe that the recording of the behavior in school situations is very meager indeed and that supplementary work in the home is imperative.

MANDEL SHERMAN

A guide to literature for children —Probably no book designed to guide parents and teachers in the selection of reading material for children has been more frequently referred to since its publication in 1925 than has the first edition of the book under review.¹ Since its first publication, however, great changes have been made in the field of juvenile literature. Many worth-while books expressly for children have been produced, new editions of old favorites have been brought out, and a large number of titles formerly included in book lists are now out of print. With these changes in mind, the authors have revised their work.

In the revised edition the original plan of organization is followed. Part I, a discussion of the reading interests of children, is based in part on the authors' investigations. Part II contains classified lists of books with annotations, a graded list of supplementary reading for schools, and a "Growing Library for the Child." To Part I has been added a chapter entitled "Types of Children's Literature," which is primarily for the use of those normal schools and teachers' colleges in which the volume is employed as a textbook.

Part II is of more general use, and it is in this section that most of the changes have been made. Approximately 325 titles which were previously recommended have been dropped, and 200 have been added. Most of the deletions were books which are now out of print or editions which are undesirable because of their physical makeup. An increased amount of fiction is listed to accord with the findings of the authors that a majority of the books read by children are fiction. Some newer titles have been added to the chapter "Supplementary Reading for Schools," and the "Growing Library" lists have been lengthened to meet the needs of those parents who have found the earlier lists too short. More than fifty representative illustrations taken from the books recommended have been included in this edition.

Concerning the new titles included the authors say:

We have tried in our choice of new books not to become the victims of our own enthusiasms. We have tried to evaluate honestly without over-reference to the claims of publishers. The books we have included are for the most part those which have been read by children under our own observation. In a few cases we have accepted gratefully the opinion of librarians, but the majority of books we recommend are those that we personally know children read and enjoy [p. x]

¹ Lewis M. Terman and Margaret Lima, *Children's Reading: A Guide for Parents and Teachers*. New York: D. Appleton & Co., 1931 (revised). Pp. xvi+422. \$2.00.

Acceptance of the author's conclusions will wait, no doubt, upon the corroborative evidence of further research. Meanwhile, the study cautions teachers against ascribing to the child who is hard of hearing other characteristics which may exist only in the mind of the teacher.

DAVID A. LANE, JR.

Anger reactions in young children.—As the author of a recent book¹ states, few quantitative studies have been made of anger. Most studies of the emotions of children have been of the descriptive type except for the studies made by Watson and others in preschool laboratories. With this fact in mind, the author developed a record sheet on which the parents of forty-five children recorded the manifestations of anger over a period of approximately thirty days. The daily record sheet which the parents filled out appears to be objective in that specific questions are asked with the request that specific instances be mentioned. Analyses are made of the behavior of the children during their anger reactions, the factors determining the variability of anger, the causes, the methods of control, and the influence of parent-child relationships.

The author evidently is concerned with the possible criticism that parents are not always in position to make reliable statements about their children. Anticipating this criticism, she states that these parents were, on the whole, intelligent and worked on the experiment with seriousness and diligence. She also states that she has no reason to believe that the records are not as complete and as reliable as those any trained workers could obtain. Perhaps this is so, but from the experiences of others this statement must be challenged, for the fact that the parents kept records of the actions of their own children possibly influenced their responses in no small measure. Although the records were objective in the sense that they required specific statements, this precaution does not prevent the personal element from entering into record-keeping. In Table VI (page 56) the percentage of the total number of outbursts for girls under one year of age as reported by the parents is 0.8 and for both sexes, 0.7. The total number of cases is one for boys and one for girls. In Table XV (page 140) the number of outbursts for boys under one year of age is two, and the percentage of the total is 9.1. Perhaps the small number of cases in these examples might make the reader doubtful of the reliability of the data.

Many of the discussions are excellent, and it is unfortunate that the author did not expand this book into a general treatise on the problem of anger instead of spending so much time on the records. Perhaps the style of book-writing is changing, for in the past such a report would have been made in one or two magazine articles. The explanation of the different effects of various social attitudes on the behavior of boys and of girls is brought out in an interesting and constructive way. Such data will go far toward discouraging speculative theories.

¹ Florence L. Goodenough, *Anger in Young Children*. Institute of Child Welfare Monograph Series, No. 9. Minneapolis, Minnesota: University of Minnesota Press, 1931. Pp. xiv+278. \$2.50.

regarding innate sex differences. Other discussions also are developed interestingly, and, on the whole, the book is sound. The volume illustrates well what can be done with the records of parents. We ought to have many such studies, for much information ordinarily overlooked can be obtained in this way. Most of us believe that the recording of the behavior in school situations is very meager indeed and that supplementary work in the home is imperative.

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¹ Lewis M. Terman and Margaret Lima, *Children's Reading: A Guide for Parents and Teachers*. New York. D. Appleton & Co., 1931 (revised) Pp. xvi+422 \$2.00.

With reference to the entire list the authors write as follows: "We can only say again that we have been guided not only by librarians, publishers, and our own research, but by our most important arbiters, the children themselves" (p. x).

It would be interesting to know from which of the sources named the most guidance was accepted, under what conditions children were observed reading, and what real evidence the writers have that "children read and enjoy" a majority of the books recommended. The inclusion of objective data would have made the work more convincing. The book list, however, is good as far as it goes. There will always be differences of opinion about the books which should be included in such lists, but there is no doubt that many titles are omitted from this list which should have appeared if the revision was prompted chiefly by the great progress made in children's literature since the first edition was published. Not enough new titles are presented, and the number of books especially suitable for children of ten years and under is too small.

The new features in this edition have enhanced its value as a textbook for teachers' training schools, where its fullest use should result in acquainting students with much that is best in juvenile literature. The book will also be helpful to parents, teachers, librarians, and others concerned with the problem of book selection for children

EVANGELINE COLBURN

Principles and practices in school ventilation.—The importance of the effect of atmospheric conditions on human health has been recognized from the time of Hippocrates. Recently, perhaps no one problem in school management and school-building construction has been given more attention than that of providing satisfactory air for classrooms. One of the most outstanding studies made in this field is that reported in 1923 by the New York State Commission on Ventilation. This organization was reconstituted in 1926 as the New York Commission on Ventilation and recently submitted its final report.¹ The contribution of this book from the standpoint of health and the timeliness of the suggested possibilities for economies in school-building construction make it a valuable addition to the literature on this subject.

The volume presents a brief résumé of the research that has been done in the field of ventilation and the effects of this research on legislative enactments. This review is followed by a history of the origin of the commission and brief summaries of the various studies that it has completed. Certain findings, reported in the 1923 publication, are here modified as a result of the later investigations. One of the most outstanding conclusions in the final report is the statement that "the commission believes that . . . the window-gravity method of

¹ New York Commission on Ventilation (C. E. A. Winslow, chairman), *School Ventilation: Principles and Practices*. New York: Teachers College, Columbia University, 1931. Pp viii+74. \$1.00

ventilation for school classrooms (in the absence of specific local unfavorable conditions) is as satisfactory as the fan system and is generally more satisfactory" (p. vi).

The authors make it clear that there are certain problems relating to air conditions in schoolrooms that have not yet been solved. Nevertheless, any school administrator who contemplates constructing a new building or remodeling an old one will do well to become acquainted with the final report of the commission. Since some states have enacted into law specific requirements relating to ventilation that have been proved unnecessary from the standpoint of health and undesirable from the standpoint of the cost of building construction, steps should be taken to follow the findings of the commission and to initiate a movement to secure modifications in existing laws. An extensive bibliography provides the reader with sources of material on specific aspects of the problems here presented.

CLEM O. THOMPSON

Natural science in the primary grades.—A recent book "offers a plan whereby natural science becomes the core of education for two successive years" of the primary grades, "and it suggests a way for articulating the work of these grades with that of the years which precede and follow" (p. ix).

The course in science for the grades outlined on pages 236-41 is not unusual except that it takes up in the lower grades topics usually reserved for the upper-school levels. The work of Grades II and III is treated in detail. The outline covers the following topics: the earth in space, the sun, moon, and stars; the inside of the earth; soil and its relation to plants, underground animals, ground water, and minerals; the earth's surface—forests, rocks, mountains, maps, rivers, the sea; and the earth's atmosphere—sky, moisture, wind, fire, and winged life. This grouping of topics is perhaps justified by the associations in the minds of primary children.

The child's earliest response to the phenomena of nature is emotional, the author believes. Later the child asks for facts and ideas. Contacts with the marvels of the environment should be unhurried to give time for the emotional responses and their expression. "The concepts which this book stresses most are the unity and order of creation" (p. 22). "The object is not accumulation of facts; it is the growth of the spirit, the awakening and unfolding of thought" (p. 25).

Abundant quotations and citations stress the poetic interpretation of nature as a means of guiding the child's unfolding thought. The child's sense of rhythm and beauty and his delight in expressive play constantly suggest topics and methods of approach.

The book can be read with great profit by every teacher of science in the pub-

* Bertha Stevens, *Child and Universe*. New York: John Day Co., 1931. Pp. xxii+250. \$3.75.

lic schools. It should decidedly help to displace the "dry-as-dust" cramming of facts with a more sympathetic study of nature that will meet the need of a growing child's mind. Not subject matter but the outcome is important.

ELLIOT R. DOWNING

A textbook in beginning reading for adults.—Recent studies in the field of adult elementary education have emphasized the need of much simple reading material based on content that is informing and related to adult interests. The fact has also been recognized that books used in teaching adults to read increase too rapidly in difficulty and do not provide sufficient practice to establish fluent reading habits. Significant effort has recently been made in different parts of the country to overcome these limitations. A concrete example is *A Practical Reader for Adults*,¹ which was developed experimentally in the adult classes of Springfield, Massachusetts. Book One of the series was prepared for illiterate adults who have no education in their native language, and Book Two was prepared for those who have completed Book One or its equivalent.

In the preparation of the content of Book One two types of studies were made. The first endeavored to determine what material foreign-born illiterate men and women hope eventually to read. The study showed that the most prominent motives for learning to read are the desire to read the newspaper and the desire to take out citizenship papers. The second study was concerned with the words and phrases which are most important for immediate recognition. This study showed that public signs should be recognized even before the newspaper can be read. The results of these two studies dictated the vocabulary of the reader. "A public sign is the basis of almost every lesson. A reading vocabulary, such as is found in the newspaper, is used instead of a speaking vocabulary. This reading vocabulary is built up from nothing to about 255 words, or an average of less than four new words for each of the sixty-six lessons" (p. v, teachers' edition). Explicit directions for grading students for the teaching of each lesson and for testing the results are given in the manual. The methods recommended take into consideration the results of recent investigations relating to fundamental reading habits in so far as they apply to illiterate adults. Book One, therefore, is the result of a genuine effort to study objectively the needs of adults and to utilize the findings of investigators in related fields.

The aims of Book Two as given in the teachers' edition are as follows:

(1) To enlarge the reading vocabulary, (2) to cultivate reading habits such as (a) making the sentence or short paragraph the unit of comprehension, (b) accuracy in recognition, (c) analyzing new words, (d) reading thoughtfully, (e) reading with some degree of fluency, (f) reading the newspapers and magazines, (3) to cultivate a desire for (a) reading independently, (b) reading for pleasure, (4) through better understandings and appreciations to get a broader conception of citizenship [p. vii].

¹ Josephine Dwight Mason and Gertrude E. O'Brien, *A Practical Reader for Adults*. Book One, pp. iv+138, \$0.72, Book Two, pp. vi+158, \$0.76. Boston: D. C. Heath & Co., 1931.

The content of the book is organized around six units or themes, banking, post-office, safety, health, automobiles, and Washington. "The lessons in these units are based upon signs which should be recognized, upon facts and information for practical needs, and upon those understandings and attitudes which make for better citizenship" (p. viii).

The books of this series are carefully prepared and are adapted especially to the needs of illiterate foreign-born adults who live in cities and who have had little or no education abroad. They represent a somewhat new departure in beginning reading books for adults. They merit careful study by any group of teachers in need of beginning-reading materials for adults living in cities.

W. S. GRAY

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

- The Administration of the School Health Program.* Report of the Subcommittee on the Administration of the School Health Program, A. J. Stoddard, Chairman. Section III, Education and Training, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xii+42. \$0.50.
- BAGLEY, WILLIAM C., and MACDONALD, MARION E. *Standard Practices in Teaching: A Summary of the Standards Generally Recognized as Governing Good Practice in Typical Teaching Procedures.* New York: Macmillan Co., 1932. Pp. viii+190. \$2.00.
- BENNETT, ANNETTE. *A Comparative Study of Subnormal Children in the Elementary Grades.* Teachers College Contributions to Education, No. 510. New York: Teachers College, Columbia University, 1932. Pp. x+82. \$1.50.
- CAIRNS, GEORGE JOSEPH. *An Analytical Study of Mathematical Abilities.* Washington: Catholic University of America, 1931. Pp. 104.
- Character Education through Physical Education.* Interpretations of Physical Education, Vol. III. Edited by Jay B. Nash. New York: A. S. Barnes & Co., Inc., 1932. Pp. x+316. \$2.00.
- Children's Reading: A Study of Voluntary Reading of Boys and Girls in the United States.* Report of the Subcommittee on Reading, Carl H. Milam, Chairman. Section III, Education and Training, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xii+90. \$0.75.
- CONN, ERNEST. *One Foot on the Ground: A Plea for Common Sense in Education.* New York: G. P. Putnam's Sons, 1932. Pp. 248. \$2.00.
- COWLEY, W. H. *The Personnel Bibliographical Index.* Columbus, Ohio: Ohio State University, 1932. Pp. vi+434. \$4.00.

- DAVIS, ELWOOD CRAIG *Methods and Techniques Used in Surveying Health and Physical Education in City Schools: An Analysis and Evaluation*. Teachers College Contributions to Education, No. 515. New York: Teachers College, Columbia University, 1932. Pp. viii+162. \$2.00.
- The Delinquent Child*. Report of the Committee on Socially Handicapped—Delinquency, Frederick P. Cabot, Chairman. Section IV, The Handicapped: Prevention, Maintenance, Protection; White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xx+500. \$3.50.
- DRAPER, EDGAR M., and ROBERTS, ALEXANDER C. *Principles of American Secondary Education*. New York: Century Co., 1932. Pp. xxxiv+550. \$2.25.
- ELBIN, PAUL N. *The Improvement of College Worship*. Teachers College Contributions to Education, No. 530. New York: Teachers College, Columbia University, 1932. Pp. viii+154. \$1.50.
- FEATHERSTONE, WILLIAM B. *The Curriculum of the Special Class: Its Underlying Principles*. Teachers College Contributions to Education, No. 544. New York: Teachers College, Columbia University, 1932. Pp. 158.
- GRAVES, FRANK PIERREPONT. *The Administration of American Education with Especial Reference to Personnel Factors*. New York: Macmillan Co., 1932. Pp. xviii+632. \$2.00.
- Growth and Development of the Child*, Part IV, Appraisalment of the Child. Report of the Committee on Growth and Development, Kenneth D. Blackfan, Chairman. Section I, Medical Service. New York: Century Co., 1932. Pp. xx+344. \$2.75.
- HAYES, HARRIET. *Planning Residence Halls for Undergraduate Students in American Colleges and Universities: A Handbook for the Use of College Officers and Members of Building Committees*. New York: Teachers College, Columbia University, 1932. Pp. vi+248.
- Health Section Report*. World Federation of Education Associations, July 27–August 1, 1931, Denver, Colorado, U.S.A. New York: American Child Health Association and Metropolitan Life Insurance Co., 1932. Pp. xiv+300. \$1.00.
- Home and School Cooperation*. Report of the Subcommittee on Cooperation of Home and School, Mrs. A. H. Reeve, Chairman. Section III, Education and Training, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xii+122. \$0.75.
- HUGHES, WILLIAM LEONARD. *The Administration of Health and Physical Education for Men in Colleges and Universities*. Teachers College Contributions to Education, No. 541. New York: Teachers College, Columbia University, 1932. Pp. viii+182. \$1.75.
- KENNEDY-FRASER, DAVID. *Education of the Backward Child*. New York: D. Appleton & Co., 1932. Pp. viii+236. \$1.80.
- KING, LUELLA M. *Learning and Applying Spelling Rules in Grades Three to Eight*. Teachers College Contributions to Education, No. 517. New York: Teachers College, Columbia University, 1932. Pp. x+80. \$1.50.

- KOOS, LEONARD V., and KEFAUVER, GRAYSON N. *Guidance in Secondary Schools*. New York: Macmillan Co., 1932. Pp. xii+640. \$2.50.
- KORNIS, JULIUS. *Education in Hungary*. Studies of the International Institute of Teachers College, Columbia University, No. 13. New York: Teachers College, Columbia University, 1932. Pp. xii+290.
- LANE, ROBERT HILL. *A Teacher's Guide Book to the Activity Program*. New York: Macmillan Co., 1932. Pp. viii+258. \$2.00.
- LEONARD, EUGENIE ANDRUSS. *Problems of Freshman College Girls: A Study of Mother-Daughter Relationships and Social Adjustments of Girls Entering College*. Child Development Monographs, No. 9. New York: Teachers College, Columbia University, 1932. Pp. 140.
- LONG, HOLLIS MOODY. *Public Secondary Education for Negroes in North Carolina*. Teachers College Contributions to Education, No. 529. New York: Teachers College, Columbia University, 1932. Pp. xii+116. \$1.50.
- MARTIN, GEORGE HENRY. *Essentials of Education*. Edited with a Biography by Joseph Asbury Pitman. Boston: Richard G. Badger, Publisher, 1932. Pp. 218. \$2.50.
- Organization for the Care of Handicapped Children*: National, State, Local. Report of the Committee on National, State and Local Organization for the Handicapped, Kate Burr Johnson, Chairman. Section IV, The Handicapped: Prevention, Maintenance, Protection; White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xx+366 \$2.75.
- Orientation in Education*. Edited by T. H. Schutte. New York: Macmillan Co., 1932. Pp. x+522. \$2.50.
- PHILLIPS, EVELYN BUTLER. *An Analysis of the Curricula of the Small High Schools of Maine*. University of Maine Studies, Second Series, No. 23. Orono, Maine: University of Maine Press, 1932. Pp. 90.
- Psychology Today*: Lectures and Study Manual. Edited by Walter V. Bingham. Chicago: University of Chicago Press, 1932. \$1.50.
- REEVES, FLOYD W., and OTHERS. *The Liberal Arts College*: Based upon Surveys of Thirty-five Colleges Related to the Methodist Episcopal Church. Chicago: University of Chicago Press, 1932. Pp. xxxvi+716. \$4.50.
- RUSK, ROBERT R. *Research in Education*: An Introduction. London, England: University of London Press, Ltd., 1932. Pp. 108.
- Safety Education in Schools*. Report of the Subcommittee on Safety Education in Schools, Albert W. Whitney, Chairman. Section III, Education and Training, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xii+62. \$0.50.
- The School Health Program*. Report of the Committee on the School Child, Thomas D. Wood, Chairman. Section III, Education and Training, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xx+400. \$2.75.

- SHIBLI, J. *Recent Developments in the Teaching of Geometry*. State College, Pennsylvania: J. Shibli (219 Fairmount Avenue), 1932. Pp. viii+252. \$2.25.
- Social Hygiene in Schools*. Report of the Subcommittee on Social Hygiene in Schools, William F. Snow, Chairman. Section III, Education and Training, White House Conference on Child Health and Protection. New York, Century Co., 1932. Pp. xii+60. \$0.50.
- SPENCER, PAUL R. *A State Minimum Teachers' Salary Schedule: A Part of Florida's State Minimum Educational Program*. Teachers College Contributions to Education, No. 519. New York: Teachers College, Columbia University, 1932. Pp. viii+150. \$1.50.
- TWENSBURY, DONALD G. *The Founding of American Colleges and Universities before the Civil War: With Particular Reference to the Religious Influences Bearing upon the College Movement*. Teachers College Contributions to Education, No. 543. New York: Teachers College, Columbia University, 1932. Pp. x+254. \$2.50.
- THORNDIKE, EDWARD L., and the STAFF OF THE DIVISION OF PSYCHOLOGY OF THE INSTITUTE OF EDUCATIONAL RESEARCH OF TEACHERS COLLEGE, COLUMBIA UNIVERSITY. *The Fundamentals of Learning*. New York: Teachers College, Columbia University, 1932. Pp. xviii+638.
- TOWNSEND, MARION ERNEST. *The Administration of Student Personnel Services in Teacher-training Institutions of the United States*. Teachers College Contributions to Education, No. 536. New York: Teachers College, Columbia University, 1932. Pp. x+116. \$1.50.
- TURNER, CLAIR ELSMERE. *Principles of Health Education*. Boston: D. C. Heath & Co., 1932. Pp. xii+318. \$2.00.
- VAN HOUTEN, LYMAN HENRY. *Length of Service of Pennsylvania High School Teachers: The Relationship between Length of Teaching Service and Certain Economic, Social, and Educational Factors, with a Consideration of Future Needs and the Supply*. Teachers College Contributions to Education, No. 522. New York: Teachers College, Columbia University, 1932. Pp. x+148. \$1.50.
- WASHBURNE, CARLETON. *Adjusting the School to the Child: Practical First Steps*. Yonkers-on-Hudson, New York: World Book Co., 1932. Pp. xvi+190. \$1.68.
- WILKINS, ERNEST HATCH. *The College and Society: Proposals for Changes in the American Plan of Higher Education*. New York: Century Co., 1932. Pp. xii+174. \$1.75.
- WOOD, BEN D., and FREEMAN, FRANK N. *An Experimental Study of the Educational Influences of the Typewriter in the Elementary School Classroom*. New York: Macmillan Co., 1932. Pp. x+214.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL
TEACHERS AND PUPILS

- Appleton's Standard School Atlas.* Edited by George Philip and V. C. Finch. New York: D. Appleton & Co., 1932. Pp. xxviii+viii+64. \$1.50.
- BEARD, CHARLES A., and BAILEY, WILLIAM C. *Elementary World History: A Revised and Simplified Edition of "Our Old World Background."* New York: Macmillan Co., 1932 (revised). Pp. xvi+462. \$1.20.
- COLEMAN, WILLIAM HENRY; DONOVAN, HERMAN LEE; FRASIER, GEORGE WILLARD; and STODDARD, ALEXANDER J. *Learning To Spell: Elementary Book (Second to Sixth Grades Inclusive)*, pp. 214, \$0.48, *Advanced Book (Seventh and Eighth Grades)*, pp. 96, \$0.36. Chicago: Hall & McCreary Co., 1931.
- COMMITTEE ON LEISURE READING. *Leisure Reading for Grades Seven, Eight, and Nine.* Chicago: National Council of Teachers of English (221 West Sixty-eighth Street), 1932. Pp. 132. \$0.20.
- CRAIG, GERALD S., and BALDWIN, SARA E. *Pathways in Science. Book II, Out-of-Doors*, pp. vi+270, \$0.76; *Book III, Our Wide, Wide World*, pp. viii+306, \$0.76. Boston: Ginn & Co., 1932.
- CRAIG, GERALD S., and CONDRY, MARGARET G. *Learning About Our World. Pathways in Science, Book V.* Boston: Ginn & Co., 1932. Pp. viii+384. \$0.76.
- CRAIG, GERALD S., and HURLEY, BEATRICE DAVIS. *The Earth and Living Things. Pathways in Science, Book IV.* Boston: Ginn & Co., 1932. Pp. viii+308. \$0.76.
- CRANDON, LAURA B. *Ein Anfangsbuch.* Yonkers-on-Hudson, New York: World Book Co., 1932 (revised). Pp. xii+324. \$1.28.
- DEFFENDALL, P. H. *Elementary English Work Books: Book III*, pp. 62, \$0.28; *Book IV*, pp. ii+62, \$0.28. New York: Macmillan Co., 1932.
- Experience in English Composition and Literature*, Vol. I, Grades I-VIII. Francis W. Parker School Studies in Education, Vol. IX. Chicago: Faculty of the Francis W. Parker School (330 Webster Avenue), 1932. Pp. 382.
- GATES, ARTHUR I., and AYER, JEAN Y. *Pleasant Lands. The Work-Play Books, Fifth Reader.* New York: Macmillan Co., 1932. Pp. viii+472. \$0.88.
- JACKSON, EUGENE. *New Approach to German for Junior and Senior High Schools.* New York: Longmans, Green & Co., 1932. Pp. xxiv+400.
- PAUL, HARRY G., and MILLER, W. D. *Teaching Manual for "Language Goals," Grades 1-4.* Chicago: Lyons & Carnahan, 1932. Pp. iv+250.
- SCHIAWE, WILLIEDELL. *A Journey to Many Lands. Health Readers, Book Four.* Yonkers-on-Hudson, New York: World Book Co., 1932. Pp. viii+200. \$0.80.
- SKINNER, CHARLES E. *Good Manners for Young Americans.* Chicago: Beckley-Cardy Co., 1932. Pp. 128. \$0.75.

PUBLICATIONS OF THE UNITED STATES OFFICE OF EDUCATION
AND OTHER MATERIAL IN PAMPHLET FORM

Abstracts of Dissertations and Theses in Education at the University of Michigan, 1917-1931. Bureau of Educational Reference and Research Monographs, No. 1. Ann Arbor, Michigan: University of Michigan. Pp. vi+136. \$1.00.
Additional Research Studies. Secondary Education in Virginia, No. 15. University of Virginia Record Extension Series, Vol. XVI, No. 9. Charlottesville, Virginia: University Extension Department, University of Virginia, 1932. Pp. 94. \$0.15.

ANDERSON, EARL W., and FOSTER, RICHARD R. *Teacher Supply and Demand in Ohio, 1920-1930.* Bureau of Educational Research Monographs, No. 11. Columbus, Ohio. Ohio State University, 1932. Pp. xii+170. \$2.00.

ASTELL, LOUIS A., and ODELL, CHARLES W. *High School Science Clubs.* Bureau of Educational Research Bulletin No. 60. University of Illinois Bulletin, Vol. XXIX, No. 39. Urbana, Illinois: University of Illinois, 1932. Pp. 78. \$0.50.

BLACKSTONE, E. G., and MCLAUGHLIN, MARY W. *Blackstone Stenographic Proficiency Tests.* Yonkers-on-Hudson, New York: World Book Co., 1932.

COUNTS, GEORGE S. *Dare the School Build a New Social Order?* John Day Pamphlets, No. 11. New York: John Day Co., 1932. Pp. 56.

Recent issues of the Office of Education:

Bulletin No. 20, 1931—*Biennial Survey of Education in the United States, 1928-1930:* Vol. I, Chap. XXII, Recent Progress and Condition of Museums, by Laurence Vail Coleman.

Bulletin No. 21, 1931—*Opportunities for the Preparation of Teachers of Exceptional Children* by Elise H. Martens.

Bulletin No. 1, 1932—*Educational Directory, 1932:* Part II, Institutions of Higher Education

Bulletin No. 3, 1932—*Status of Teachers and Principals Employed in the Rural Schools of the United States* by Walter H. Gaumnitz.

Pamphlet No. 27 (1931)—*Summer Educational Opportunities:* Novel Features of University and College Summer Sessions, by Ella B. Ratcliffe.

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MISCELLANEOUS PUBLICATIONS

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THE UNIVERSITY OF CHICAGO
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THE ELEMENTARY SCHOOL JOURNAL

Edited by

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[ENCLOSURE]

THE ELEMENTARY SCHOOL JOURNAL

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Educational News and Editorial Comment

THE SCHOOL AND THE SOCIAL ORDER

Some time ago Professor George S. Counts, of Teachers College, Columbia University, published a pamphlet entitled *Dare the School Build a New Social Order?* Professor Counts boldly and vigorously defends the thesis that teachers should reach for power and make the school an effective instrument for social direction and control. The following paragraphs are quoted from the pamphlet.

If we may now assume that the child will be imposed upon in some fashion by the various elements in his environment, the real question is not whether imposition will take place, but rather from what source it will come. If we were to answer this question in terms of the past, there could, I think, be but one answer: on all genuinely crucial matters the school follows the wishes of the groups or classes that actually rule society; on minor matters the school is sometimes allowed a certain measure of freedom. But the future may be unlike the past. Or perhaps I should say that teachers, if they could increase sufficiently their stock of courage, intelligence, and vision, might become a social force of some magnitude. About this eventuality I am not oversanguine, but a society lacking leadership as ours does, might even accept the guidance of teachers. Through powerful organizations they might at least reach the public conscience and come to exercise a larger measure of control over the schools than hitherto. They would then have to assume some responsibility for the more fundamental forms of imposition which, according to my argument, cannot be avoided.

That the teachers should deliberately reach for power and then make the most of their conquest is my firm conviction. To the extent that they are permitted to fashion the curriculum and the procedures of the school they will definitely and positively influence the social attitudes, ideals, and behavior of the coming generation. In doing this they should resort to no subterfuge or false modesty. They should say neither that they are merely teaching the truth nor that they are unwilling to wield power in their own right. The first position is false, and the second is a confession of incompetence. It is my observation that the men and women who have affected the course of human events are those who have not hesitated to use the power that has come to them. Representing as they do, not the interests of the moment or of any special class, but rather the common and abiding interests of the people, teachers are under heavy social obligation to protect and further those interests. In this they occupy a relatively unique position in society. Also since the profession should embrace scientists and scholars of the highest rank, as well as teachers working at all levels of the educational system, it has at its disposal, as no other group, the knowledge and wisdom of the ages. It is scarcely thinkable that these men and women would ever act as selfishly or bungle as badly as have the so-called "practical" men of our generation—the politicians, the financiers, the industrialists. If all of these facts are taken into account, instead of shunning power, the profession should rather seek power and then strive to use that power fully and wisely and in the interests of the great masses of the people. . . .

This brings us to the question of the kind of imposition in which teachers should engage, if they had the power. Our obligations, I think, grow out of the social situation. We live in troublous times; we live in an age of profound change; we live in an age of revolution. Indeed it is highly doubtful whether man ever lived in a more eventful period than the present. In order to match our epoch we would probably have to go back to the fall of the ancient empires or even to that unrecorded age when men first abandoned the natural arts of hunting and fishing and trapping and began to experiment with agriculture and the settled life. Today we are witnessing the rise of a civilization quite without precedent in human history—a civilization founded on science, technology, and machinery, possessing the most extraordinary power, and rapidly making of the entire world a single great society. Because of forces already released, whether in the field of economics, politics, morals, religion, or art, the old molds are being broken. And the peoples of the earth are everywhere seething with strange ideas and passions. If life were peaceful and quiet and undisturbed by great issues, we might with some show of wisdom center our attention on the nature of the child. But with the world as it is, we cannot afford for a single instant to remove our eyes from the social scene or shift our attention from the peculiar needs of the age.

In this new world that is forming, there is one set of issues which is peculiarly fundamental and which is certain to be the center of bitter and prolonged struggle. I refer to those issues which may be styled economic. President Butler

has well stated the case: "For a generation and more past," he says, "the center of human interest has been moving from the point which it occupied for some four hundred years to a new point which it bids fair to occupy for a time equally long. The shift in the position of the center of gravity in human interest has been from politics to economics; from considerations that had to do with forms of government, with the establishment and protection of individual liberty, to considerations that have to do with the production, distribution, and consumption of wealth."

A point of view almost diametrically opposed to that of Professor Counts was recently expressed by the *Chicago Tribune* in its editorial columns.

In the very noteworthy interview granted James O'Donnell Bennett by Professor Paul Shorey of the University of Chicago that distinguished scholar and philosopher expressed the opinion that the outstanding weaknesses of American government at this time are "governmental extravagance, the power of organized minorities, and the lack of backbone and intelligence in our governing representatives."

That summary we are convinced could not be bettered. And Professor Shorey's answer to Mr. Bennett's question, "And the cure?" was even more deserving of attention since it touches a matter less conspicuous in public discussion. "The cure," he said, "should begin in the schools. I should insist first upon the higher training of teachers, and I should forbid all revolutionary propaganda in the schools and only allow habitual propaganda of the elementary fundamentals of law, order, morals, and American constitutional government. And I shouldn't call that propaganda, but training. In other words, I don't think a teacher has a right to inculcate opinions outside his own subject or opinions subversive of the existing order. If he wants to do that, he should do it somewhere else. If he is hired to teach arithmetic, that gives him no right to make propaganda for his own favorite theories. But I would not limit his freedom of speech. I would only ask him to hire a hall."

When we have expressed this doctrine, we have been told that we greatly exaggerate propaganda in the teaching body. But Professor Shorey says: "Many teachers of undergraduates are more and more abusing their privilege by imposing personal propaganda upon their students. I have heard eminent professors of history declare frankly in conversation that their only interest in the teaching of the subject was in its use for the inculcation of radical social and economic theories."

The line between teaching and propagandism is, of course, a difficult one to maintain, for teachers after all are human and it is human to wish to impress one's own convictions upon others. Nevertheless, it is a line which ought to be jealously maintained. There is in the United States a free forum of public discussion which every true believer in American principles of free government and social progress would jealously guard, but in the instruction of schools,

which has to do with youth in its formative stage, the right of youth to freedom of choice and development is superior to the right of individual expression by the teacher as an individual. The teacher's freedom of utterance is properly limited by his professional function and duty.

This is not an issue we can afford to shirk. Professor Dodd has recently reminded us of the ill effects of the imposition of official dogmas and doctrines, political propaganda, that is, upon the universities of Prussia prior to the great war. But a corresponding evil is the imposition upon students of the doctrines held by radical teachers. In the one case a ruling caste, Professor Dodd argues, was entrenched in authority and healthy criticism suppressed. In the latter case a system of government and a social or economic order may be disintegrated unofficially by the imposition upon inexperienced youth of the opinions of adult teachers who are hostile critics of the prevailing system. To us who cherish that system the latter result seems fully as deplorable as the former, and, apart from the question of systems, the error is the same.

We think Professor Shorey gives the proper limits of elementary training or instruction when he says that it should be confined to the fundamentals of law, order, morals, and the American Constitution. In the more advanced schooling there should be full and free instruction in all the theories of government, economics, and social order. Students have a right, and it is a supreme right, to know what is being thought and done in the world, but this implies freedom from propaganda, from the sort of imposition which the historians quoted by Professor Shorey indulged in. Such teachers are not merely exercising, they are *abusing, academic freedom*.

But apart from questions of general principle in public instruction, we must revert to the phenomenon which has impressed Professor Shorey as well as us, namely, the considerable prevalence among teachers of what to us seems a lack of intelligent appreciation of the American political and social order. We think this order has demonstrated enough virtue and accomplished enough good to merit a good deal fairer consideration and a good deal more stalwart devotion than seems to be found among many instructors of American youth.

The foregoing quotations raise sharply the issue of the relation of the school to the social order. Every student of the history of education is perfectly aware of the fact that in any social order those groups in control of political and economic policies have, almost without exception, used the school as an instrument to socialize the individual in terms of those policies. The school by its very nature tends to become a preservative and conservative influence; its chief purpose after all is to give to the youth of each generation a knowledge and an understanding of the social institutions which they must employ and of the social order in which they must live. If social

organization is to be preserved, if social institutions are to be perpetuated in the life of each new generation, if the social heritage is not to be dissipated, the school must be a preservative and conservative institution. In its very nature the school cannot be made an instrument of sharp social revolution. It is inconceivable that any society should support a system of schools with the avowed purpose of destroying the fundamental principles upon which that society was organized. It is inconceivable, for example, that the schools of Russia should be permitted to teach the overthrow of communism and the establishment of a capitalistic type of economic organization or that the schools of the United States should teach the overthrow of capitalism and the establishment of communism. The simple fact is that, were it possible to make the school an instrument of sharp economic or social revolution, it would not be necessary to do so; the revolution would already have been accomplished.

It is not to be inferred from the foregoing paragraph that the school may not and should not be an effective instrument of social direction and control. The school both in this country and in Europe is far too conservative. When the proper relation of the school to society is established, the school will be perfectly free to teach facts and to train youth to make a critical, objective evaluation of those facts. No institution and no practice, be it political, economic, or social, should be sacrosanct; controversial issues, simply because they are controversial, should find free discussion in the school. Not the nature of the issue but the social and the intellectual maturity of the pupil should be the factor which determines whether the issue finds a place for free discussion. Freedom to teach the facts and to train youth to make a critical evaluation of the facts is all that the school has a right to demand of the society which supports it. This freedom teachers everywhere should courageously demand.

A SIGNIFICANT PROGRAM IN RADIO EDUCATION

The National Advisory Council on Radio in Education was organized in 1930 to further the art of radio broadcasting in American education. It states its purpose in the following words: "At this stage of its history, the National Advisory Council on Radio in Education is attempting to do two things: first, to assemble and

disseminate facts about radio in education; second, to induce qualified educators and authorities in various fields to devise radio programs that will be notable contributions to educational broadcasting."

About a year ago the Council inaugurated three series of radio lectures at the University of Chicago. Since that time the University of Chicago Press, as publisher for the Council, has distributed more than 266,734 copies of printed material to accompany the various lecture series. This printed material has consisted of listeners' handbooks, printed lectures in pamphlet form, and the programs of the series.

Last year's series of lectures on economics drew a nation-wide audience, according to the University of Chicago Press, which reports that 77,839 listeners' handbooks and reprints of the lectures were distributed. The complete series of thirty talks by as many well-known economists was recently printed in a paper-bound book by the University of Chicago Press under the title *Aspects of the Depression*. The publication was edited by Felix Morley, of the Brookings Institution, who is chairman of the Committee on Economics of the National Advisory Council on Radio in Education. The lectures were given under three general heads: "Economic Aspects of the Depression," "Roads to Economic Recovery," and "New Social Responsibilities." Among the speakers were Ernest L. Bogart, Jané Addams, Harold G. Moulton, Edwin F. Gay, James Harvey Rogers, Ernest M. Patterson, Colston E. Warne, and Paul H. Douglas.

Another series last year which attracted a large audience and which was widely used in school instruction dealt with psychology. The University of Chicago Press reports that 109,037 psychology lecture reprints and listeners' notebooks were distributed on individual requests from listeners. The thirty lectures were organized under six general topics: "Psychology Today," giving a broad view of contemporary thought in the field of psychology; "Child Development"; "Our Changing Personalities"; "Animal Behavior"; "Psychology of Education"; and "Psychology and Industry." These lectures also were recently published in a single volume under the title *Psychology Today*, edited by Walter V. Bingham, chairman of the

Committee on Psychology of the National Advisory Council on Radio in Education.

Three new lecture series will go on the air this autumn, two of which are planned to be especially suitable for supplementary instruction in high school and college as well as to offer unusual opportunities for adult-education groups. These are the series entitled "You and Your Government" and the series on "Economic Problems of Today." The third series will be on "Labor and the Nation." Men representing various organizations affiliated with the American Federation of Labor will discuss the problems of their respective groups. The National Council has not yet decided whether to give a second series of psychology broadcasts this autumn and winter.

The broadcasts on government have been arranged by the National Advisory Council on Radio in Education and the American Political Science Association. The expense of the publication of the listeners' handbook and its distribution is being met by the University of Chicago Press. Any interested person may have a copy without charge by writing to the University of Chicago Press. The handbook contains an outline of each lecture in the series, questions for discussion, and a bibliography. The lectures on economics will be given by the staff of the Brookings Institution, Washington, D.C.

Schools, adult-education groups, or individuals interested in knowing more about these lectures can secure complete programs and free supplementary material by writing to the University of Chicago Press.

SCHOOL CONSOLIDATION AS AN ECONOMY MEASURE

The following statement published in the *United States Daily* by Charles A. Howard, superintendent of public instruction of Oregon, describes a type of economy which could be effected very commonly throughout the country.

The greatest ultimate economy without loss of school efficiency lies in the reorganization of small school units into larger districts. Such districts should be of sufficient size and valuation to provide stability of school administration at a reasonable cost. The trend in other states is definitely in the direction of larger school districts. The 1931 tax levies for schools in 2,200 school districts in Oregon range from less than one mill to forty-nine mills.

Definite suggestions for economies include the closing of small schools when-

disseminate facts about radio in education; second, to induce qualified educators and authorities in various fields to devise radio programs that will be notable contributions to educational broadcasting."

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Definite suggestions for economies include the closing of small schools when-

ever transportation and tuition can be provided elsewhere at less expense; whenever possible two or more adjoining districts merge and support only one school; and schools with extra capacity offer their facilities to adjoining small schools at reasonable tuition.

There are nearly six hundred schools in Oregon with an average daily attendance for the year ranging from only one pupil to ten. Considerable savings can be made by closing many such schools and arranging for tuition and transportation of the pupils to adjoining districts.

This is not always possible because of distance or poor roads, while many small schools are justified even though the cost per pupil is very high.

The ratio of pupils per teacher should be increased where practicable, small school buildings in larger school systems should be closed temporarily when pupils can be accommodated in other buildings economically; and the costs of transportation, supplies, maintenance, cost of instruction, and equipment should be carefully scrutinized for every possible saving.

It is significant that teachers' salaries in Oregon are low in comparison with adjoining states, and drastic and permanent cuts would result in serious damage to Oregon education. It is, therefore, recommended that any necessary salary readjustments be made as temporary expedients only and with definite plans for ultimately returning to present schedules.

Several school boards are now offering low tuition to pupils from adjoining small schools in districts unable to support a separate school next year. Recent reports from county superintendents indicate that many small districts are merging with adjoining districts to support only one school at a greatly reduced total cost.

SOURCES OF CITY SCHOOL REVENUE

The following statement was published in the *United States Daily*.

On the city taxpayer rests directly the support of schools, E. M. Foster, chief of the Division of Statistics, United States Office of Education, asserts in a bulletin on city-school statistics just made public by the Office.

Only 14 per cent of city revenues come from the state and 5 per cent from the county. More than 77 per cent of the school revenue goes for instruction. The following additional information was taken from that part of Mr. Foster's study dealing with the source of the city-school dollar.

Although public education is considered a state function, the burden of supporting the schools of a city rests directly upon the city taxpayer, irrespective of its ability to support schools in comparison with the ability of other cities and school districts. Only 14 per cent of the school-revenue receipts for schools in cities having a population of 10,000 and more comes from the state, and 5 per cent from the county. Including 0.9 per cent derived from tuition from other civil districts and 0.2 per cent from the federal government for vocational education, 79.9 per cent of the school funds in these cities is derived from local sources.

In cities of 10,000 population and more the sources of school-revenue receipts changed somewhat in relative amounts from 1922 to 1930. Income from the federal government for vocational education increased from a little less than 0.2 per cent to a little more than 0.2 per cent. The state provided only 0.6 per cent more in 1930 than in 1922, and the county 0.1 more. Tuition from other districts increased 0.4 per cent.

The percentage derived from general property taxes and city appropriations for current expenses shows a decrease of almost 5 per cent, while the percentage derived from local taxation for debt increased 3.7 per cent. The total proportion derived from local sources decreased from 81 per cent in 1922 to 79.9 per cent in 1930.

With respect to total income, revenue and non-revenue, the percentage from loans and bond sales dropped steadily from 19.9 per cent in 1922 to 9.6 per cent in 1928, but in 1930 rose to 12.7 per cent.

In cities having a population of 10,000 and more, 3.3 per cent of the current expenses in 1930 is charged to general control, 77.2 per cent to instruction, 9.6 per cent to operation, 4.3 per cent to maintenance, 3.1 per cent to auxiliary agencies, and 2.5 per cent to fixed charges. Of the grand total outlay exclusive of bonds, 76.7 per cent is for current expenses, 16.7 per cent for capital outlay, and 6.6 per cent for interest.

CLASSIFICATION AND PROMOTION PRACTICES IN THE ELEMENTARY SCHOOL

The following statement is the summary of a report prepared by Leslie L. Chism on the classification and promotion practices in the elementary schools in 490 cities with populations of 2,500 to 100,000. The cities were selected from all sections of the country. The report will later be expanded into a Master's thesis at the University of Chicago.

CLASSIFICATION AND PROMOTION PRACTICES IN THE ELEMENTARY SCHOOLS OF SCHOOL SYSTEMS IN 490 CITIES WITH POPULATIONS OF 2,500 TO 100,000

	Percentage of Schools Answering Affirmatively
A. Plan of promotion in use	
1. Are promotions made only once a year?.....	55.71
2. Are promotions made semiannually?	40.41
3. Are promotions made quarterly?.....	0.20
4. Are promotions made at any time a pupil demonstrates his ability to do the work in an advanced group? . .	48.16
5. Are capable pupils permitted to complete the work of a grade and receive promotion in less than the regular time?.....	47.96

	Percentage of Schools Answering Affirmatively
6. Are superior pupils permitted to skip a grade?	41.22
7. Are superior pupils advanced more rapidly than the average but without skipping a class or grade?	35.71
8. Are pupils who fail in one subject required to repeat a grade?	8.16
a) A half-grade?	9.39
b) A quarter-grade?	1.02
9. Are pupils who complete the work in the eighth grade at the close of the first semester admitted to high school at the beginning of the second semester?	41.43
10. Are pupils who complete the work of the sixth grade at the close of the first semester admitted to the junior high school at the beginning of the second semester?	37.76
11. Is an average mark on all subjects taken by a pupil required for promotion?	33.67
12. If a pupil received a mark below passing in a given subject but has an average mark for all subjects which he has taken in his present grade equal to or above that required for promotion, is he promoted unconditionally?	26.33
a) On condition?	46.73
13. After two successive failures by a pupil in a given grade, is promotion made irrespective of the marks earned by the pupils?	54.08
14. Please check any of the following items which receive consideration at the time promotions are made:	
a) Chronological age	88.78
b) Mental age	80.82
c) Intelligence quotient	71.22
d) Social maturity	67.55
e) Personal characteristics or traits	67.55
15. Are promotions made solely by teachers?	12.86
16. Are promotions made by teachers and reviewed by principal?	32.45
17. Are promotions made by joint action of teachers and principal?	39.80
B. Method of classifying or grouping pupils	
1. Do you group pupils in homogeneous sections within each grade?	44.08
2. If so, into how many groups are pupils usually classified within each grade?	
a) Two groups	21.63
b) Three groups	21.02

	Percentage of Schools Answering Affirmatively
3. Are special rooms provided for dull pupils?.....	27.35
4. Are special opportunity rooms provided for superior pupils?	6 94
5. Are special rooms provided for pupils who are mentally retarded?	37 35
a) Are special teachers provided?	37.14
6. Are special teachers provided for pupils who are	
a) Deaf?	8.37
b) Blind?	51 00
c) Crippled?	10 61
d) Defective in speech?	8.57
7. Is the classification problem within each grade taken care of by individualized instruction?	44 69
8. Is the subject matter divided into maximum, average, and minimum assignments?	41.43
9. Do you employ helping teachers to assist retarded pupils?	10.20
C. Basis for classification or grouping of pupils	
1. Is the classification of pupils based on the teacher's estimate of the pupil's ability to do the work in his particular group?	42.86
2. Is a pupil's classification based on the marks or grades which he received in his various subjects without an additional statement of the teacher's estimate of his ability in general to do the work?	15.51
3. Is the basis of classification of a pupil a combination of the marks he received in his various subjects and his teacher's estimate of his ability to do the work in the group to which he is assigned?	77.96
4. Are the results of standardized educational (subject-matter) tests used as the basis of classification?	67.55
5. Are the results of group intelligence tests used as the basis of classification of pupils?	61 84

THE COUNTY SUPERINTENDENT IN THE UNITED STATES

It has long been apparent that education in the rural areas of the United States is suffering from a lack of well-trained and well-paid supervisory officials. The county superintendency, largely because of attitudes toward it established in the early periods of its history, has never attracted as able a body of men and women as have other administrative and supervisory positions.

Two bulletins recently published by the United States Office of Education contain a wide range of significant information with respect to the county superintendency. The first of these, entitled *The Legal Status of the County Superintendent* (Bulletin Number 7, 1932), traces the early development of the office, shows the trends in the legal prescriptions relative to the county superintendency since about 1880, and sets up bases for the evaluation of the present legal status of the county superintendent. The second bulletin, entitled *The County Superintendent in the United States* (Bulletin Number 6, 1932), reports a detailed investigation of the present status of the office. The following paragraphs are quoted from the conclusions of the latter report.

The superintendent's professional equipment.—With a median educational experience of 19.9 years it is evident that the county superintendents, as a group, have had sufficient experience in which to become familiar with the work of the schools. Likewise they have, as a group, had a reasonable amount of experience in teaching in Grades I–XII (9.4 years) and in administration and supervision (8.8 years). While it would doubtless be well if a county superintendent could have experience at all levels of the common-school system, the number that are lacking some such experience does not appear to be unduly large. Only 18 per cent have not had experience in the first six grades, and only 6 per cent in Grades VII–XII.

The training of this officer is, however, not so satisfactory. The median training is 7.8 years above the elementary school, with 50 per cent having between 6.1 and 8.6 years. While 33 per cent have a Bachelor's degree, 9 per cent a Master's degree, and 1 per cent a Doctor's degree, 57 per cent of the whole group included in this study have no degree. No one can say how much training such an officer should have. Anyone will admit that neither length of training nor the possession of academic degrees is a guaranty of professional efficiency. The present writer does, however, believe that to secure the cultural background and the wide range of professional information needed in dealing with problems of teaching, of pupil accounting, of financing, of buildings, of organization, and the like, a full four-year college course and, in addition, professional training of at least one and, preferably, of two years on the graduate level is essential. We know that in most communities of most states principals and high-school teachers must have a college degree. If the county superintendent who has more or less authority (differing widely according to the state) over these school officers is to command their respect and confidence, he certainly should not be less than their equal in general and professional education.

Two factors appear to be important as affecting this problem. In the first place, attention should be given to the selection of the county superintendent.

This will be discussed in the next section. In the second place, training in service should, so far as possible, be given. Of the 2,009 superintendents in this study only 254 have taken summer-session training during the preceding five-year period. Eight hundred and fifty-nine have had no such attendance and, in all probability, most of the 896 who gave no information on this point have had none. For the 254, the median length of training during the five years was about seven weeks.

Of the entire group only seventy-four had attended a short course. One thousand two hundred and twenty-three had had no such attendance, while 712 gave no data. The median length of this attendance is about six weeks. Hence, it would appear that a very small percentage of the county superintendents are securing training through these means and that six weeks represents the usual length of such training. . . .

The method of selection.—In twenty-five of the states the county superintendent is still chosen through popular election. This has generally been considered as an important, even a dominant, factor in the status of the office. Our reasoning has been that popular election fails to attract the most able members of the profession, because they object to the uncertainties of an election by persons who are not fully aware of the requirements of the office; because the term of office is short and re-election beyond a second term (in many states, at least) not customary regardless of the efficiency of the service rendered; and because the political affiliations of the office make it difficult to attack some of the problems on a professional basis.

Tink's study.—Tink (E. L. Tink, *Certain Phases of County Educational Organization*) undertook to make a factual study of the effect of the method of selection upon the county superintendent.

"Evidence in four states indicates definitely that the appointment system of selecting county superintendents as a theory, has been sound and worthy. In actual practice this system of selection for the appointive states of Alabama, Maryland, and North Carolina is decidedly superior to the elective system in Florida. In the appointive states the county superintendency is more of a profession, the superintendents are more uniformly qualified, and small counties are not discriminated against. This evidence further establishes that for these four states the appointive system secures superintendents with better training and experience for the same money, holds them longer, keeps them growing more professionally, and secures better educational service from them."

What our data show.—We have so organized certain parts of our data as to show the situation according to the method of selection. These data show clearly that, taking the states as a group, appointment by any method gives a larger percentage of superintendents who are men, a longer period of training above the elementary school; a longer administrative experience, a longer experience as county superintendent; a larger salary; a larger percentage who were holding an administrative position when first elected as county superintendent; and a

somewhat smaller percentage who were holding a non-educational position when first selected as county superintendent. . . .

These raw data would, then, seem to confirm, for the larger group of states, Tink's judgment made after a study of four states. One must be cautious, however, about concluding that the method of selection alone is the cause of the superintendent's status in regard to the factors mentioned above. Salary, for example, is controlled in many states by certain legal provisions that do not necessarily have any connection with the method of selection. It is also controlled in part by the general salary level of the state. The sex of the superintendent is, in turn, likely to be affected by salary and salary limitations. Nevertheless, it would seem fair to conclude that, taking the states as a whole, a grouping of factors desirable in a county superintendent is found more frequently when selection is made by appointment than when it is made through popular election.

The salary situation.—Among the factors affecting the status of the county superintendent, salary must be given an important place

Our data show a median salary of \$2,312 with 50 per cent receiving between \$1,827 and \$2,931. In two states the median is less than \$1,500, while in eighteen others it is less than \$2,000. In contrast with this median of \$2,312, superintendents of cities with a population of 2,500 to 5,000 received \$3,380 in 1926-27; those of 5,000 to 10,000 population received \$4,026; and those of 10,000 to 30,000 received \$4,765. Elementary-school principals received \$1,519 in the villages and small towns, \$2,319 in cities of 2,500 to 5,000, \$2,229 in cities of 5,000 to 10,000, and \$2,250 in cities of 10,000 to 30,000. High-school principals received \$2,205 in the villages and small towns, \$2,333 in cities of 2,500 to 5,000, \$2,821 in cities of 5,000 to 10,000, and \$3,424 in cities of 10,000 to 30,000. In other words, the county superintendents of the United States, taking the group as a whole, receive about \$800 more than the principals of elementary schools in villages and small towns. They receive approximately the same salary as high-school principals and superintendents in places of fewer than 5,000 and as elementary-school principals in places of 2,500 to 30,000 population. They receive about \$500 less than high-school principals in cities of 5,000 to 10,000 and about \$1,100 less than high-school principals in places of 10,000 to 30,000. They receive about \$1,700 less than the superintendents in cities of 5,000 to 10,000 and less than one-half that received by superintendents in places of 10,000 to 30,000.

On the other hand, there are encouraging salary conditions in some states. In New Jersey each county superintendent is paid \$5,000, while in Pennsylvania the median is \$3,501; in Massachusetts, \$3,393; in Connecticut, \$3,376; and in Ohio, \$3,391.

Even these better salaries are not particularly attractive when one considers the financial opportunities in the smaller cities. It is evident, therefore, that an improvement in the salary situation of the county superintendent is neces-

sary in practically all the states if the rural schools are to attract and hold professional men and women of ability.

THE TEACHING OF CHILDREN WHO DO NOT SPEAK ENGLISH

The State Department of Education of California has published a bulletin entitled *A Guide for Teachers of Beginning Non-English Speaking Children*. The purpose of the bulletin is to present methods and materials which may form the basis of instruction. A good deal of concrete instructional material is arranged under such topics as the following: speech difficulties, basic speaking vocabulary, vocabulary alphabetically arranged, methods of presenting language through activities, language games, methods of presenting art, methods of presenting music, and methods in physical education. In the appendixes are given a suggested daily program, a description of self-directed activities involving no reading, and recommendations with respect to standard classroom equipment and supplies.

A GUIDE TO LEISURE READING FOR UPPER-GRADE PUPILS

The National Council of Teachers of English has recently published a booklet entitled *Leisure Reading: A List for Grades Seven, Eight, and Nine*. It includes somewhat more than eleven hundred titles representing both the traditional classics and the best of contemporary literature. Practically all kinds of writing are included: novels and stories; myths, legends, hero tales, and epics; biography; history; aviation, adventure, and travel; nature; science and invention; fine arts; poetry and plays; and occupations for leisure time. Each title is sufficiently annotated to enable the reader to form some notion of the content of the book. The methods employed in the selection of the various titles are not indicated, but it is asserted that the list represents the expert opinion of teachers of English, librarians, publishers, and authors throughout the country. The booklet may be secured from the National Council of Teachers of English, 211 West Sixty-eighth Street, Chicago, Illinois.

TRAINING FOR RESEARCH IN THE LIGHT OF FIELD REQUIREMENTS¹

DOUGLAS E. SCATES

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The provision for regular research work in city school systems constitutes one of the newer forms of educational service. Beginning just twenty years ago with the establishment of a bureau in Baltimore, the movement has spread rapidly until at the present time 150 cities² have made some definite provision for local research. Three-fourths of these cities have organized bureaus, more than half of which have been established in the last seven years. It appears that the need for local research is being felt generally and that provision is being made for it.

The establishment of local bureaus of research is a characteristic of modern times. The directors of many large undertakings have come to a realization of the service which research can render and have set aside the energies of certain individuals for the intensive study of their problems. The research attitude, which has extended into all phases of human activity, is doing much to differentiate our present modes of living from those of all previous time. Public-school systems, in keeping with this spirit, are establishing their own centers of research to aid in the continuous problem of maintaining adjustment to a rapidly changing world.

These research bureaus render a variety of forms of service. Some of the special forms of service rendered are indicated in the titles of the bureaus, such, for example, as "Research and Testing." A United States pamphlet lists forty different titles carried by the various bureaus.³ A study of the titles and of the stated functions

¹ Address delivered at the Educational Conferences conducted on March 14 and 15, 1932, by the Department of Education of the University of Chicago on the occasion of the opening of the Graduate Education Building.

² *Educational Directory, 1932*, pp. 149-52. United States Office of Education Bulletin No. 1, 1932.

³ Edith A. Wright, *Organization and Functions of Research Bureaus in City School Systems*. United States Office of Education Leaflet No. 2, February, 1931. Pp. 14.

of these bureaus makes it clear that in the majority of cases the energies of the bureaus are being distributed over a number of forms of service, of which research is but one. Apparently administrators have felt a general need for help in the more technical aspects of education and have established so-called "bureaus of research" to render technical service of a general nature. In fact, one sometimes gains the impression that some of these bureaus are devoting their entire energy to forms of technical service other than research.

It may be worth while to attempt to make clear what I refer to as research. I endeavor to distinguish between certain forms of technical service without restricting the term to what is commonly known as "pure research." Those activities which seek to discover only the most general scientific truth and which are carried on for no immediate utilitarian purpose may constitute the purest form of research, but I am not willing to grant that they constitute the only form. I should like to take from pure research the essence of its method without being limited to its purpose. On this basis I regard research as the unstandardized, scientific study of problems. An investigation must be scientific and must involve the element of novelty in attack if it is to constitute research. It scarcely need be added that a problem of sufficient complexity to warrant painstaking study is assumed.

On this basis I should distinguish between research and four other types of service commonly rendered by bureaus. In the first place, those activities which can be routinized do not constitute research, however technical they may be. In this group I should place the receiving, summarizing, and compiling of regular reports and also the regular administration of a testing program. The ascertaining of facts is not in itself research, and, while these processes may be involved in research, they do not in themselves constitute research. They become research activities only when they form a part of a scientific investigation which requires ingenuity in selecting, organizing, and perhaps modifying known technical procedures in attacking the problem.

The second type of service to which I refer is constructive activities. These may, and often do, involve research, but the purely productive phases are not research. As examples, I may mention curricu-

lum construction, making achievement tests, and working out plans and materials for the greater individualization of instruction. While the possibilities for research in such fields are unlimited and while the constructive work should be based on research findings, distinction must be made between the utilization of scientific knowledge and contributions to it. Research may give guidance to productive work and may test the final product, but the constructive activity in itself belongs to the field of creative and artistic skills rather than to science.

Administrative activities of a more or less special nature constitute a third group of service activities which are not essentially research. For example, the research worker may be charged with the responsibility of securing publicity for the system, or he may be asked to help select teachers, select textbooks, prepare the annual budget, or help out in various other ways, either temporarily or regularly. A research worker may be able to suggest ways in which these processes might be improved through research, but the processes obviously do not purport to produce scientific truths. Even the administration of a technical enterprise, such as a testing program, does not necessarily constitute research. Skill in the organization and the adaptation of administrative procedures in order to secure desired facts will not, without an accompanying novelty in the selection and the adaptation of technical procedures, be acceptable as research. Most research involves a certain amount of administration, but the administrative phases are not the essential phases.

The fourth group of service activities is a rather miscellaneous group composed of a variety of technical services. Perhaps we may think of these under the general term of "reference service." I have in mind such services as preparing bibliographies or summaries of the literature on special topics, advising with principals and teachers on the selection and use of tests, editing the publications of the system, and writing the superintendent's annual report. Such activities sometimes afford a welcome relief from the strain of research, but their real character is apparent. We shall not accede to the notion that everything technical is research.

I wish to make it clear that I am not criticizing any research bureau that engages in these activities, for the bureau may have

been established for the purpose of rendering just such service. Further, the research worker has a certain general obligation as a member of the central staff to share in the various specialized activities which cannot be properly provided for through a regular assignment of personnel. Again, he will desire to participate in large movements which are of concern to those about him, for he must keep in touch with the life of the school system and be alert to suggest ways in which research is of value. For him to engage largely in the activities to which I have referred will mean, however, that he will not have time for research, and, if his bureau bears the name of research, he will sooner or later be held responsible for the fruits of research.

I do not feel that it is any disparagement of other activities to point out that they are not research. Neither do I feel that the concept of research is made narrow by drawing careful distinctions. Rather, it is freed from confusion and pettiness. Research cannot be routine, it cannot be mechanical; it cannot be unseeing; it cannot do things that are easy to do. It must be prepared to delve into the most subtle phases of existence and to measure the influence of the most elusive of factors. Research calls for the spirit of the explorer, who thrills as he presses forward into the unknown; research calls for the constructive imagination of the inventor, who conceives of what is needed in terms of what is possible; research calls for the skill, the acumen, the persistence, and the integrity of those men whom the world has come to regard as worthy the name of scientist. It is by such characteristics that research may be known.

The responsibility for advancing educational science must be borne jointly by those who are carrying on research in institutions and by those who are engaged in research in the field. Their work should be regarded as supplementary rather than as essentially different. Since both groups of workers are bent on the scientific description of limited areas of reality in terms of conditioning factors, the one may find it more fitting to generalize, the other to particularize. The individual in the institution may be somewhat freer in his choice of problems, but he will not necessarily choose them from a wider range. He may desire to treat them somewhat more generally, but he will not necessarily treat them more fully. While the re-

search of a few institutions is characterized by highly refined laboratory investigations of a fundamental nature, which one will not expect to find in the field, it can scarcely be said that one will expect to find them in the average university. Research in the field is somewhat precarious, but the tendency for it to disintegrate into forms of general service may not be greater than the tendency for professorial production to gravitate to forms of general writing. In either situation there are more opportunities than can be exhausted. Whether an individual works under the pressure of imminent need in the midst of contentious forces in the field or works under the stimulation of the beckoning horizons of science in the relative isolation of institutional laboratories, it is likely that the first, and the chief, limitations to research are to be found, not in the external conditions, but in the worker himself.

Perhaps the nature of field research can be made clearer by reference to a few problems which are more or less representative. I shall draw these largely from my own experience. In Cincinnati we are at the present time engaged in a study to ascertain how much our salary schedule will cost if it is maintained until it reaches a stabilized condition. It is possible to arrive at a rough estimate without much study, but a rather exact answer is desired, and the procedures become complex. Our salary schedule is complicated by three different minimums, ten maximums, and three rates of increase (all of which are conditional), and by various other special features introduced here and there. In making a prediction, we wish to utilize as fully as possible our four years of experience with the schedule. A study of the possibilities of attack on the problem revealed that there were five different methods by which the desired estimate could be secured. By gathering a few extra facts, we found it possible to use the three of these five methods which were judged to be the best and to check the results of one estimate against another. The study has extended over the larger portion of a year, and the director has had the help of two university students (whose Masters' theses are based on the study), two clerks, and a tabulating-machine operator.

The foregoing description is representative of statistical studies. Many administrative studies are of this character. There are other problems, however, in which the data do not exist all ready for copy-

ing off and in which the statistical element becomes the lesser phase of the work. Last year I was requested to work on the problem of whether the board should employ married women teachers or retain in its employ women teachers who marry. One of my friends laughed at the idea of that as a research problem. My program of work was changed to another problem before this study was well under way, but I offer this problem as an example of what I regard as a rich field for research. If one will study the literature on this subject, one will find a large amount of discussion, few facts, and almost nothing that could be called research. To attack such a problem, one will need a broad understanding of the professional, economic, social, psychological, and other aspects. Many years of careful research could be devoted to this problem, and it may be of more significance than we ordinarily think. It is true that in times of economic depression the issue might not be settled on the basis of research findings; yet research findings might become the basis of an established policy which would weather many economic depressions.

There is considerable room for experimental research in the field of methods of instruction. At the present time, however, I should place the emphasis on the need for devising ways of measuring the more complex learning products. I do not believe that experiments in instructional methods can be of great significance at the present time because many of the qualities frequently regarded as of greatest importance are not reflected adequately in our current measurements. For example, we can at present scientifically evaluate an activity program only in terms of the more formal learning products, and yet these products do not constitute the chief claim which the method makes for its justification. We measure a personal trait as a more or less isolated thing, and yet the significance of a unit of any trait in the life of an individual may depend as much on its relation to other traits in his response patterns as on the presence or absence of this unit under test conditions. Where is the current measuring device that adequately registers these delicate organization patterns? The selection of the basic educational procedures of the future must await the development of measuring techniques sufficiently refined to reflect the more subtle and complex learning products.

Problems connected with the social phases of personality develop-

ment constitute a very significant group. Consider, for example, the apparently simple problem of the desirability of homogeneous grouping. This problem will not find a satisfactory solution until we can measure in a refined and valid way the effect on the child of attitudes held by his friends, his teachers, and his parents. Do we know, or have we at present any way of finding out, what changes are produced in the dynamics, the social outlook, and the permanent personal reactions of the child when we place him in a situation which constantly reminds him of his intellectual stratum? Do we know whether we are increasing or reducing the likelihood that he will be well adjusted to the conditions of life and will contribute in the fullest possible way to the lives of those about him when we train him in a social situation where his contacts are largely limited to children with similar characteristics? Do we know whether our present bases of sectioning are as satisfactory as some other measure, such, for example, as a measure of social age?

Such problems are essentially practical. The school administrator faces them daily. He must make some decision on them, and he wishes that educational science had an answer that he could accept as valid. There is a large question in the minds of many practical educators today whether research can ever deal adequately with some of the more important issues in education. The answer lies in the kind of training given our research men in the coming years. If we turn out a corps of young men who are so busy doing things that they do not have time to think, we shall not be rendering education a significant service. If we turn out mere technicians who go about their work with the expectancy that one day's activities will be much the same as those of the preceding day, we shall get nowhere. The research men who are to make significant contributions to the solution of the perplexing problems of education must be trained with a breadth and with a thoroughness that are seldom found.

The training of the research worker cannot be chiefly technical. It is true that his technical proficiency should be above question, but, without a well-proportioned comprehension of education, his techniques may be not only valueless but positively dangerous. The large problems of field research are not technical in a narrow

sense but grow out of the intricacies of the situation being studied, and they make far greater demands on the worker's familiarity with this field than they do on his familiarity with universal techniques. The research worker can, if necessary, hire a technician just as he employs a stenographer, but he cannot intrust to another such essential phases of his work as the selection of the factors to be studied, the devising of means of indexing these factors, the interpretation of the findings, and the maintenance of a critical attitude throughout the study. It may be desirable for the research worker to have command of every technical skill likely to be of service in his work, but it is of far greater importance that he be able to organize and direct these skills so that they will be most effective in the development of educational science.

The two outstanding needs of field research workers are, first, a sufficient grasp of the fundamental principles of education to guide them in carrying on their work and, second, preparation for the practical problems of administering their work. These needs were revealed by a recent study¹ in which research workers were asked to indicate what they considered the significant deficiencies in their training. The need for a broad understanding of education would seem to call for the training at present offered for the doctorate. One does not come to understand the complexities and subtleties of education in a short time, and even in three years it may not be possible to do much more than gain an appreciation of the growth that must take place after the formal training is finished. The courses taken during this training should not be concentrated around a single aspect of education but should be spread over the whole field and should extend into the related fields of psychology, sociology, and economics. All the phases of education are related, and any one of them studied by itself can be understood but partially. A person should avoid specializing too early in his training.

With regard to the need for training in the practical problems of carrying on research in the field, I believe our present program could be strengthened. This strengthening probably cannot be accomplished through regular course work. The Doctor's thesis gives high-

¹ Ralph W. Tyler, "Training Courses for Research Workers," *Educational Research Bulletin* (Ohio State University), XI (March 30, 1932), 169-79.

ly valuable training along this line. I am not going to suggest that a candidate write two theses, but I do wish to suggest the desirability of a year of research apprenticeship, preferably under field conditions, after the thesis has been completed. In this situation the prospective field worker could take on certain of the fundamental attitudes and some of the administrative skills that are not commonly dealt with in courses. For example, he must learn his proper relations to other members of the school system; he must learn that his problems are to be selected, not primarily with the thought of filling a gap in educational science, but with the thought of producing conclusions which are valuable to his school system; and he must know that a report in the field written after the style of his thesis will not be satisfactory. On the administrative side, he must develop the ability to plan a workable attack on problems; he must learn to adapt his work on a problem to the given conditions of time and expense; and, if he has assistants, he must be able to divide up a problem in order that different phases can be worked on by different people. A knowledge of certain practical phases of the work may make the difference between success and failure when the training given is otherwise satisfactory.

I have heard of men who hold the position of director of research in a school system as a means of serving an apprenticeship for administrative work. Frankly, I have no regard for such an arrangement. These men are obviously not doing research, or their work would not be training for administration. They are merely doing special tasks of a minor administrative nature, which should not bear the name "research." When I speak of apprenticeship for research, I am thinking of men who are so interested in research that they cannot give it up, for administration or for anything else. Research is not a position to be held for a time; it is a fundamental attitude. Once acquired, it will not be parted with lightly.

The research worker in education has an opportunity to share in the significant task of reconstructing social life on the basis of new conditions and new insights. The physical sciences, with techniques which have been developing for a thousand years, have largely remade the material conditions of life, and we now find ourselves living with old ideas in a new world. The social sciences, with tech-

niques which have only recently been discovered, are setting about to ascertain and develop the fundamentals of a new culture which will be appropriate to present conditions and which will mean for all a fuller and richer life. In this process education will not only be active in helping define the new goals of life, but it will bear the chief responsibility for making known the principles of the new order and for making them effective in daily life. In preparation for this large task, education is taking on a new direction and adopting new methods. The entire field is vitalized with the spirit of progress. Research workers are needed to explore the vast possibilities ahead and point the way to be followed. The future of civilization rests largely with education, and the future of education rests largely with research.

He who contemplates entering upon educational research should do so with a spirit of service. He works, not for himself, but for humanity; his cause is the advancement of life. Always on the verge of a new truth, the research scientist can scarcely pause for considerations of self. He sees in his work opportunities and needs which extend far beyond the limits of his strength, and he gives of his energies freely. Yet he does not work unrewarded. As he reaches out to meet the problems that call for solution, he finds many compensations in his work. The very passion with which he presses forward imbues him with a constant conviction of the sheer worth-whileness of life. Grappling constantly with problems which promise a new tomorrow, he is freed from the bondage of static routine served by those who minister merely to the necessities of life. Each new achievement points the way to others just beyond, and he keeps rank with those who joy in the steady conquest of man's perpetual frontier. Slowly but surely the margins of knowledge are forced back, the vision broadens, and the limits of life are forgotten in the vistas that lead indefinitely on.

A UNIVERSITY'S PROGRAM OF RESEARCH IN ELEMENTARY EDUCATION^{*}

J. B. EDMONSON
University of Michigan

In considering the general topic for this session, "Practical Applications of the Science of Education," it occurred to me that an account of the most significant recent expansion of the program of work at the School of Education at the University of Michigan might be used to illustrate an effort to provide for the further application of the science of education. In presenting this account, I realize that it is concerned with a field in which very notable contributions of a pioneer character have already been made by the Department of Education of the University of Chicago and a field in which it is anticipated many more contributions will be made by the staff housed in this splendid Graduate Education Building. It is hoped that the account of our plans at the University of Michigan may possess interest as an example of the efforts made by a state university to meet in a fuller measure its responsibilities to the largest unit of public instruction—the field of elementary education.

All will admit that present achievements in the scientific study of education have fallen far short of present-day needs. We believe, however, that the hope of further progress in our schools lies chiefly in careful studies which in their ideals approximate scientific research. The thoughtful school man believes that the conditions which make for sound development physically, mentally, and morally on the part of the school child lend themselves to exacting studies. Indeed, we now have much evidence that the small sums of money which have so far been spent in educational research are yielding useful outcomes. Even those most critical of results to date will ad-

^{*} Address delivered at the Educational Conferences conducted on March 14 and 15, 1932, by the Department of Education of the University of Chicago on the occasion of the opening of the Graduate Education Building.

mit willingly that well-trained school people today know much more about the development of children than they knew fifteen years ago.

In former years the teacher-training work at the University of Michigan was concerned almost exclusively with the preparation of administrators and secondary-school teachers. An important change in this policy was prefaced when the University Elementary School Building was made possible in 1927 by a grant of funds from the legislature of the state of Michigan. The building was completed and ready for occupancy in September, 1930. The school was established as a part of the School of Education and is one of the two laboratory units.

The building represents a synthesis of the elements that teachers and research workers in leading centers have found desirable. Unusual provisions have been incorporated for the care of nursery-school children, for observation, and for making and studying records. In addition to the usual classrooms and activity rooms, the building includes an auditorium, a gymnasium, a science room, an art room, and a children's library, all of which have been made exceptionally interesting. These rooms have been equipped with appropriate furniture and with conveniences designed to further the educational program of the school and to permit a wide flexibility of use adaptable to experimental needs. When the school is operating at capacity, children between the ages of two and twelve years can be accommodated. At present four groups of children between the ages of two and a half and six and a half years are in attendance. At least one additional age group will be added each year until all units through the sixth grade are in operation. The costs of instruction and research are at present met jointly by funds from the general income of the University and from a grant received from the General Education Board of the Rockefeller Foundation. It is a sign of a new day in education when the larger universities are willing to expend some of their income to support the study of problems relating to child life and development.

The school is not designed to provide practice-teaching facilities to students who may be interested in preparing for teaching positions. The purposes of the school are, however, well defined. First and foremost, it intends to give the children the best possible ele-

mentary training according to the most modern educational theories. In order successfully to carry out this idea, however, the school must, through careful study of the children, determine the best educational policy. Those responsible for the policies of the school are not committed to any dominating educational theory in the school program. They would like to insist that every departure be justified by experimental results and educational experience and that each experiment should be subject to the checks of scientific appraisal. The new school will also furnish a valuable laboratory for the training of administrative officers, research workers, supervisors, students, and teachers engaged in research problems dealing with children. Experiments will be made, and various tests of character, intelligence, particular musical or dramatic ability, and the like will be given to the children.

Research has been recognized as a major function of the unit from its inception. In our program for research we recognize that the modern approaches to the study and education of the child emphasize the necessity for, and the desirability of, an integration of all branches of knowledge. This point of view is strongly supported by Dr. Willard C. Olson, who serves as director of research in the University Elementary School. In a recent article Dr. Olson wrote:

The plan for the new unit was conceived from the first as one involving the co-operation of those University departments concerned with the growing child. . . .

An important part of the program for the school will be the systematic keeping of records as a background for the interpretation of individual problems and as an important source of material for the study of growth and the guidance of children. The planning to date has included provision for a schedule of psychological and medical examinations, anatomical measurements, observations of behavior, selected items of medical and social history, dental and anatomical records, and schedules of daily sleeping and eating behavior in home and school.¹

We realize that much of the research work which will be initiated cannot be completed in the one elementary school under our charge. We shall need, therefore, the co-operation of a group of men who represent some of the more progressive school systems of the state

¹ Willard C. Olson, "The Nursery and Elementary School Laboratories of the University of Michigan," *University of Michigan School of Education Bulletin*, II (October, 1930), 4, 6.

and who are in close and intimate touch with the studies going forward in the school. In this way we expect to have the results of our work tested and improved under the severe conditions found in typical public schools. This part of the program is more than a hope; it is an assured opportunity, which the University can use as soon as it has enough competent workers to undertake the studies.

For fear the impression may exist that the School of Education is interested only in research that has to do with curriculum and learning studies, I should like to call attention to a few other fields in which we hope contributions will be made. In doing so, I wish to stress the point that the faculty of the School of Education is thinking of the new unit as one in which research workers from many departments of the University will carry forward their own studies. The time has passed when the school men are to be satisfied with contributions to a better understanding of the child through only one or two fields of learning. We must have the contributions of the biologists, the psychologists, the sociologists, the physiologists, and the health workers, as well as the specialists in the fields of medicine and education.

In defining the needs to be cared for in the new elementary-school unit, the building committee, of which the writer was chairman, conferred with representatives of various departments of the University and prepared a statement concerning the kinds of research which experts are urging in the different fields. All the studies reported under the headings of "hygiene," "physiology," "psychology," and "sociology," when properly developed and correlated, are pertinent to child welfare and are essential to satisfactory advancement in elementary education. By using all these resources, investigators may learn new ways of guiding children, may establish improved methods of care and safeguards to their health, may overcome hitherto insurmountable obstacles—physiological, sociological, and psychological—may develop entirely new fields of activity, may eliminate waste effort, and hence may greatly hasten progress.

As implied in previous statements, one of the major objectives in the field of child development is the consideration of the whole child in every aspect of his growth, and an attempt is therefore being made

in the organization and in the kinds of research to have a many-sided approach to the problems of children. A number of relationships are being arranged to carry out this interest. These arrangements have been, on the whole, more or less informal in character and have involved an interchange of personnel and ideas among several University departments and community agencies.

As one illustration of these arrangements, attention is called to the following co-operative undertakings. The Department of Pediatrics and the Division of Hygiene and Public Health of the University have co-operated in the health program. A representative of the University Hospital supervises the nutrition program for the children in the school. Through the co-operation of the Department of Psychology an assistant professor of psychology has been appointed research associate, and she, with her research assistant, conducts the investigations in genetic psychology. By an arrangement with the judge of probate of Washtenaw County and public-school officials in Ann Arbor and elsewhere, a research assistant is studying some of the mental aspects of juvenile delinquency. A member of the faculty of the School of Dentistry directs dental inspection and research. An assistant professor of sociology has a group of students studying the social behavior of children in groups. Other plans for co-operation will be arranged in the immediate future.

The contributions that we expect to make through the University Elementary School to the schools of Michigan and other states may be concisely summarized as follows:

1. The provision of a laboratory for experimental work in the field of the elementary-school curriculum.
2. The provision of a laboratory for experimental work in pre-primary education.
3. The provision of a laboratory for controlled experimentation in the fields of learning.
4. The provision of a laboratory for experimentation in the value of the different types of play and recreational activities.
5. The provision of a laboratory for the observation of individual children as well as the study of children in groups.
6. The provision of opportunities for a consultation service where

handicapped children may be brought by their parents and studied intensively by experts.

7. The provision of a laboratory for the observation and study of the laws of physical development of children.

8. The provision of opportunities for the training of research workers and other experts in kindergarten work, elementary education, supervisors of certain special subjects, superintendents of schools, and principals of elementary schools.

It is not our intention merely to imitate or to duplicate the research work of other centers for child study. We intend rather to formulate a broad general program in terms of the best counsel and advice that we can secure. It is our aim, furthermore, to capitalize the interest of the whole University and thereby to make available to the schools and to parents the fine contributions which we believe will be made by men who are working in biology, psychology, nutrition, and other fields.

Our century bids fair to merit the characterization "the century of the child." A remarkable interest in children is being shown by local, state, and national organizations. Our legislatures have passed and are continuing to pass laws designed to protect the well-being of children. Large sums of money are being left by public-spirited men for insuring greater comfort and happiness for children. Those of us at the University of Michigan believe that our School of Education has an unusual opportunity through the new elementary school to make significant contributions in research in fields related to child life and development. It is also our opinion that the educational returns to the schools of our state will fully justify the expenditure of public funds for the support of the program as planned.

ADMINISTRATIVE ASPECTS OF TESTING IN FIRST-GRADE READING

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The appraisal of the pupils' progress is a responsibility which cannot be disregarded, nor even delegated, by the principal of an elementary school. Effective administration demands that important functions, such as the promotion of pupils, the diagnosis of learning difficulties, and the evaluation of instruction, be not left solely to teachers—however efficient—but that these functions be given personal review or oversight by the principal. In administering testing programs, many principals focus their attention on the highest grades in the school to such an extent that outcomes in the primary grades do not receive a proportionate share of quantitative appraisal. This tendency probably results from a number of factors, such as the inability of pupils in the lower grades to express their ideas effectively in writing, lack of familiarity with testing procedures in the kindergarten and primary grades, and the practice frequently followed by the principal's superior officers of regarding the results in the highest grades as the most important products of the school. Nevertheless, the specific problems of pupil admission,¹ progress,² and promotion render the evaluation of outcomes fully as important in the first grade as in the sixth or any other grade. It is the purpose of this article to describe the construction and use of a first-grade reading test designed for practical administrative purposes in a large elementary school.

Tests for administrative purposes may differ fundamentally from those which the principal employs in solving problems of instruction, particularly in Grade I B, where lack of standards with respect to

¹ Mary M. Reed, *An Investigation of Practices in First Grade Admission and Promotion*, pp 8-13. Teachers College Contributions to Education, No. 290. New York: Teachers College, Columbia University, 1927.

² Mabel Vogel Morphett and Carleton Washburne, "When Should Children Begin To Read?" *Elementary School Journal*, XXXI (March, 1931), 496-503

admission and promotion¹ increases the administrative problems. Because of the heavy demands on the principal's time in a large school,² convenience of place, economy of time, and simplicity in scoring are especially vital factors in administering tests. Decisions with regard to the demotion or special promotion of pupils recommended by teachers or parents, the reclassification of groups for administrative purposes, and the final classification of pupils received by transfer may often be expedited by a test given and marked in the room in which the problem arises. Such action results in convenience and satisfaction for teachers and parents and economy of time for the principal. The principal may need a device for sampling the reading ability of pupils in Grade I B which is not affected by the pupil's memory of, or familiarity with, the materials of instruction. Moreover, the principal's use of a conveniently administered and approximately reliable test for determining promotions at the close of the semester aids in formulating standards in first-grade reading suitable to local community needs.

Standardized tests are frequently rendered unsuitable for administrative purposes by certain inherent limitations: (1) These tests fail to measure the objectives of local courses of study. (2) The administration and the marking of such tests often involve considerable detail. (3) Standardized tests usually measure a limited phase of a given subject. (4) The tests are often not available because of time or expense connected with requisitions. (5) Standardized tests are often designed for measurement at the close of the year and consequently are unsuited for use at other times.³ The chief problems encountered in devising effective informal tests are concerned with the measurement of the teaching objectives, economy of time in administering the tests, and simplicity and objectivity in scoring. These difficulties may be utilized by the principal as a means for the professional training of the staff and thus be converted into an administrative advantage. The principal will generally find that the

¹ Mary M. Reed, *op. cit.*, pp. 7-26.

² William O. Hampton, "How Public School Principals Use Their Time," p. 14. Unpublished Doctor's thesis, University of North Carolina, 1926.

³ Erby Chester Deputy, *Predicting First-Grade Reading Achievement: A Study in Reading Readiness*, p. 18. Teachers College Contributions to Education, No. 426. New York: Teachers College, Columbia University, 1930.

advantages of well-constructed informal tests outweigh those of the standardized tests in the administration of first-grade reading.

The problem of devising a simple reading test on which to base promotions from Grade I B was undertaken by the principal and the teachers of the Gladstone School, Chicago, in the spring semester of the school year 1930-31. In view of the fact that the school is located in a foreign industrial district, the problem of modifying the requirements of the course of study to meet local needs was given special attention. Word recognition was the first element of the test to be considered, and the investigations which have considered minimum requirements in the number of words to be recognized were consulted. Reed found that 17, or 14.4 per cent, of 118 school administrators reported an indefinite minimum of words which must be recognized; 8, or 6.8 per cent, gave the words found in the basal primer as a requirement; and 32, or 27.1 per cent, reported minimum requirements of 50 to 850 words, with a median of 168.7 words.¹ Morphett and Washburne found that 37 sight words constituted a satisfactory minimum requirement in word recognition for the first five months of reading.²

In view of the handicaps in the Gladstone School caused by the use of foreign languages in the homes, social background, and low mental ages,³ it was decided to formulate a list of fifty words as the minimum requirement in word recognition for Grade I B. Each first-grade teacher was requested to submit a list of the fifty words which she thought the pupil ought to be able to recognize at the completion of Grade I B. No specific directions were given to the teachers with respect to the sources from which to select the words, although it was realized that the materials of the basal series of readers used in Grades I-III⁴ might materially influence the teachers' choices of words. The words of the ten lists received were grouped according to frequency into a composite list of the fifty words most

¹ Mary M. Reed, *op. cit.*, p. 86.

² Mabel Vogel Morphett and Carleton Washburne, *op. cit.*, p. 497.

³ Paul R. Pleice, "The Administration of First-Grade Reading in a Foreign Industrial Community," *Elementary School Journal*, XXXII (June, 1932), 774-84.

⁴ Frank N. Freeman, Grace E. Storm, Eleanor M. Johnson, and W. C. French, *Child-Story Readers* Chicago: Lyons & Carnahan, 1927

frequently mentioned. These words, with the frequency of selection of each word, are given in Table I. Before accepting the composite list for test purposes, the principal made certain that all the words were included in the basal series in the materials for Grade I, and he also checked the words with the Gates vocabulary list.² Twenty-three, or nearly half, of the words in the composite list were found

TABLE I
FIFTY WORDS CHOSEN FOR TEST OF WORD RECOGNITION FOR
GRADE I B AND FREQUENCY WITH WHICH EACH WORD
WAS SELECTED BY TEN FIRST-GRADE TEACHERS

Word	Frequency of Mention	Word	Frequency of Mention
dog	9	she	6
is	9	this	6
Jane	9	with	6
play	9	children	5
am	8	had	5
I	8	make	5
in	8	me	5
Jack	8	say	5
like	8	to	5
little	8	wagon	5
my	8	went	5
Terry	8	you	5
boy	7	and	4
milk	7	are	4
run	7	baby	4
can	6	good	4
come	6	have	4
go	6	not	4
he	6	one	4
house	6	ride	4
it	6	saw	4
jump	6	school	4
mother	6	the	4
said	6	was	4
see	6	we	4

among the first 50 words in the Gates list; 35, or 70 per cent, among the first 100 words; and 46, or 92 per cent, among the first 500 words of the Gates list. The unrevised composite list was therefore included in the reading test.

The next step was the construction of simple reading selections, approximately fifty words in length, based on the words of the com-

² Arthur I. Gates, *A Reading Vocabulary for the Primary Grades* New York: Teachers College, Columbia University, 1926.

posite list and other material used in Grade I B. The aim was to give the pupil reading material which was within his ability but which was placed in a new setting with no pictures or other aids to comprehension or memory. The following exercise, the first to be used in the test, furnishes an example of the selections for Grade I B.

Terry went to school with Jack.
The children said,
 "See the dog."
Jack said,
 "He is my dog."
Terry saw Jane.
He ran to Jane.
She said,
 "You can not go to school.
 "The school is for children."
Jack said,
 "You can play with Kitty.
 "Come back to the house with me."

Ability to read a selection of this character and prompt recognition of the words of the composite list were concluded to be sufficient evidence of reading ability to warrant promotion from Grade I B to Grade I A.

In deciding on the method of administering the test, the principal and the teachers considered such factors as function, form of presentation, ability of pupils in Grade I B to handle pencils and to follow precise directions, and finally the time at the disposal of the principal. The flash-card method was selected as the most effective way of presenting the words to be recognized. The teachers were generally of the opinion that devices wherein the pupil is required to select the word from a group of words after hearing it pronounced or otherwise receiving a clue to its identity constitute an inadequate test of word recognition. The principal administered the test individually to all the pupils in Grade I B in their home rooms, usually during the progress of regular class work. The materials used were fifty flash cards, one of the reading-exercise cards, and a list of the pupils' names previously prepared by each teacher. The pupil stood beside the principal, who was seated at a table in a corner of the room, and called each sight word as it was flashed. The word cards miscalled

by the pupil were laid aside. The score was the number of words called correctly and was easily ascertained by deducting from 50 the number of cards laid aside. A pupil who was successful in the sight-word exercise next read the printed selection orally to the principal. If he read the selection with acceptable accuracy, speed, and expression, he passed the test. When the test was used for purposes other than promotion, more complete records were made of the results.

The same form of test was constructed for Grade I A. The five teachers in Grade I A were asked to select one hundred words which, with the fifty words in the list for Grade I B, should constitute a minimum requirement in word recognition for pupils completing the first grade. Eighty-six words were listed two or more times by the teachers, and to these were added sixteen special words chosen by a committee of two teachers and the principal. The 102 new words thus selected are given in Table II. In evaluating the list, the principal found 96 of the words in the basal reading materials, 54 in the preprimary and primer materials, and 42 in the first reader. With the exception of one derived form, all the 102 words were found in the Gates list, 87, or 85.3 per cent, being among the first 500 words of the list.

In view of the social status of the pupils, 152 sight words appeared to be a reasonable requirement. Reed reports that 62 administrators reported a median of 290 words as a minimum requirement for word recognition in Grade I A,¹ and Morphett and Washburne report 139 words.² When the test was administered, 50 words in the list were flashed. The reading selection was adapted to the requirements of Grade I A and was administered as was the selection in Grade I B. A sample selection follows.

Jane saw a bird in the garden.

"Come here, Father, and see this pretty bird," she said.

"Can you catch him for me?"

"No," Father said to her,

"He would not let me catch him."

Then a boy and a dog came into the garden.

The bird saw them and flew away.

¹ Mary M. Reed, *op. cit.*, p. 87.

² Mabel Vogel Morphett and Carleton Washburne, *op. cit.*, p. 497.

TABLE II
 ADDITIONAL WORDS CHOSEN FOR TEST OF WORD RECOGNITION
 FOR GRADE I A AND FREQUENCY WITH WHICH EACH WORD
 WAS SELECTED BY FIVE FIRST-GRADE TEACHERS

Word	Frequency of Mention	Word	Frequency of Mention
let.	5	her.	2
red.	5	here	2
black.	4	hill	2
cap.	4	him	2
father.	4	himself	2
who.	4	into.	2
all	3	line	2
away.	3	live.	2
bird.	3	made	2
cat.	3	men	2
chicken	3	name	2
farm.	3	now.	2
fire.	3	old	2
got.	3	once	2
hide.	3	other	2
his.	3	over.	2
home.	3	policeman.	2
hour	3	pretty.	2
out.	3	pull.	2
rat.	3	put.	2
sat.	3	river.	2
slide.	3	roll.	2
then.	3	sit.	2
took.	3	soon.	2
upon.	3	stop.	2
walk.	3	store	2
white.	3	tell.	2
again	2	ten	2
animal	2	that	2
as	2	them	2
at.	2	two	2
ate	2	were.	2
be	2	when.	2
blow	2	work.	2
blue.	2	would	2
boxes.	2	after	*
could.	2	bring.	*
counted.	2	catch.	*
cow.	2	do.	*
did	2	find	*
down	2	found	*
duck.	2	from	*
face.	2	garden.	*
fall	2	get.	*
feet.	2	long	*
first.	2	look.	*
for.	2	lost.	*
gave.	2	some	*
girl.	2	thought	*
glad	2	very.	*
help.	2	want.	*

* The words followed by asterisks are the special words chosen by a committee of two teachers and the principal.

The test for Grade I B was administered to the 113 pupils in the regular Grade I B during the last two weeks of the spring semester of the school year 1930-31. Sixty-two, or 54.9 per cent of the group, passed the test. This percentage was considered a valid indication of reading attainment in view of the handicaps of foreign language, low mental ages, and irregular attendance which influence pupil progress in a foreign industrial district.¹ The sight words most often missed by the pupils successful in the test and the number of times each word was miscalled are as follows: "was," seventeen times; "this," fifteen times, "went," eleven times; "saw," ten times; "had," eight times; "have" and "not," seven times each; "ride" and "say," five times each; "am," "are," and "one," four times each; and "make," three times. Seven other words were missed once each, and none of the thirty remaining words was miscalled. The majority of the failures in the case of "was" and "saw" resulted from mistaking one for the other, and the same was true of "had" and "have." "This" was often called "is," although "is" was always called correctly. "Went" was frequently mistaken for "want," and "make" was called "made."

Forty-eight, or 78.7 per cent, of the 61 pupils in Grade I A were successful in the test. Since not all the 152 sight words were flashed, the relative difficulty of the words could not be recorded. Of the words flashed, "store" was missed eight times, frequently being called "stop"; "first," seven times; "after," "bring," "found," "here," and "line," five times each; and "face" and "when," four times each. Such words as "could," "would," "then," and "that" failed to cause the difficulty anticipated, and the words causing the greatest difficulty in Grade I B—"was," "this," and "went"—appeared to have been mastered in Grade I A.

The question of the advisability of maintaining the lists, or possibly of revising them, as valid standards for future accomplishment in word recognition in Grades I B and I A suggested further evaluation to determine the general usefulness of the lists in the work of the primary grades. Accordingly, the words in the lists were checked against Thorndike's word list,² the spoken-vocabulary list compiled

¹ Paul R. Pierce, *op. cit.*, p. 780.

² Edward L. Thorndike, *The Teacher's Word Book*. New York: Teachers College, Columbia University, 1921.

by a committee of the National Society for the Study of Education,¹ Kircher's analysis of the vocabularies of primers and first readers,² the words in the lists for first and second grades in the Chicago course of study in spelling,³ and Harring's list of words common to fifteen primers.⁴ The results derived from checking the test lists with the foregoing criteria are summarized in Table III. The table should

TABLE III
NUMBER AND PERCENTAGE OF SIGHT WORDS IN READING TESTS FOR
GRADES I B AND I A FOUND IN EACH OF
FIVE VOCABULARY LISTS

LIST	TEST FOR GRADE I B		TEST FOR GRADE I A	
	Number	Per Cent	Number	Per Cent
Gates list:				
Words 1-100.....	35	70.0	61	40.1
Words 101-500.....	11	22.0	72	47.4
Words 501-1,000.....	1	2.0	12	7.9
Thorndike list:				
Words 1-100.....	27	54.0	56	36.8
Words 101-500.....	16	32.0	69	45.4
Words 501-1,000.....	3	6.0	13	8.6
Spoken vocabulary list.....	45	90.0	140	92.1
Kircher list.....	48	96.0	143	94.1
Chicago spelling list:				
Grade I A.....	32	64.0	52	34.2
Grade II B.....	6	12.0	34	22.4
Grade II A.....	7	14.0	33	21.7

be read as follows: 35, or 70 per cent, of the 50 sight words in the test for Grade I B and 61, or 40.1 per cent, of the 152 sight words in the test for Grade I A are found in the 100 most important words of the Gates vocabulary list. The data show that 86 per cent or more

¹ "The Commonest Words in the Spoken Vocabulary of Children up to and Including Six Years of Age," *Report of the National Committee on Reading*, pp. 186-93. Twenty-fourth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1925.

² H. W. Kircher's list of words from an analysis of the vocabularies of thirty-seven primers and first readers given in the Twenty-fourth Yearbook of the National Society for the Study of Education, Part I, pp. 193-98.

³ *A Course of Study in Spelling*, pp. 1-3. Chicago Public Schools Bulletin-S. Chicago: Board of Education, 1930.

⁴ Sydney Harring, "What Primer Shall I Use Next?" *Elementary School Journal*, XXXII (November, 1931), 209-10.

of the sight words in the test for Grade I B and 82 per cent or more of the sight words in the test for Grade I A are contained in the first 500 words of the Gates and the Thorndike lists. Sixty-four per cent of the sight words in Grade I B are included in the Chicago first-grade spelling course, and the sight words for Grade I B and Grade I A both show high percentages of agreement with the spoken-vocabulary list and with Kircher's list. Twenty of the thirty-four words in Haring's list were among the words of the list for Grade I B, and twenty-six of the words were in the list for Grade I A. It was decided, therefore, to retain the lists as standards in Grades I B and I A, subject to such revision as future classroom experience or further experimentation might warrant.

In January, 1932, at the close of the autumn semester, the tests were again administered by the principal to the pupils in Grades I B and I A. Eighty-three, or 65.9 per cent, of the 126 pupils in Grade I B were successful, a gain of 11.0 over the percentage of the previous semester. Sixty-four, or 88.9 per cent, of the 72 pupils in Grade I A passed the test, a gain of 10.2 over the percentage of the spring semester. In this examination the words most often miscalled in Grade I B were, in the order of rank, "have," "went," and "are"; in Grade I A, "first," "bring," and "when." As in the previous semester, the words most often missed were abstract; words having a concrete meaning for the child, even though they are long words, as in the case of "children," "chicken," "garden," or "father," were rarely miscalled.

The percentages of pupils unsuccessful in the reading tests, in conjunction with data from intelligence tests, clearly revealed the influence of deficient language and social backgrounds on first-grade reading progress and focused attention on the need of measures to make materials meaningful and concrete to the pupils. The giving of the tests by the principal greatly stimulated the teachers toward the attainment of definite, economical goals in reading instruction. Thus, adequate testing in first-grade reading may be regarded as essential to the effective administration of an elementary school. If the principal incorporates the mature experience of his staff with the findings of research, a program of testing may be effected which results in professional training for the teachers and administrative measures of permanent benefit to the school.

AN AGE-GRADE STUDY OF PHYSICALLY DISABLED PUPILS IN MINNESOTA PUBLIC SCHOOLS

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During 1928-29 the division of re-education in the Department of Education of Minnesota conducted in certain school districts a study of pupils having permanent physical disabilities. The purpose of this study was to secure data which would assist in the guidance of such children in their educational careers. This discussion is concerned with the phase of that study which was devoted to an age-grade analysis of those pupils.

TYPES OF DISABILITY

The physical disabilities of all persons studied in this investigation were classified as follows:

1. Muscular and skeletal disabilities
 - a) Total or partial loss of fingers, hands, arms, toes, feet, or legs
 - b) Total or partial loss of use of such members
 - c) Other disabilities of the muscular and skeletal system
2. Auditory disabilities
 - a) Totally deaf in one or both ears
 - b) Hard of hearing
3. Visual disabilities
 - a) Totally blind in one or both eyes
 - b) Defective vision in both eyes
4. Cardiac disabilities¹
 - a) Having organic disease and unable to carry on ordinary physical activities
 - b) Having organic disease and unable to carry on any physical activities
5. Respiratory disabilities
 - a) Having tuberculous history known as "arrested," "cured," "ex-tuberculous," or the like
 - b) Having history of juvenile tuberculosis
 - c) Having history of asthma or chronic bronchitis

¹ Classification of Patients Attending a Cardiac Clinic (chart). New York: American Heart Association, Inc. (370 Seventh Avenue).

6. Other disabilities

- a) Permanent physical disability which might follow any acute or chronic disease not already indicated or any such disability not classified heretofore

The foregoing outline suggests the basic criteria used for judging permanent physical disability in making a study of these pupils. To these was added one of more general nature which postulated that a definite vocational handicap should accompany such disability. Obviously, there are disabilities which, though definite and permanent, are not such as to cause vocational handicap. On the other hand, there are disabilities of such serious nature as to preclude vocational readjustment of any sort. These are the essential criteria employed in the vocational rehabilitation of disabled persons—the standpoint from which the larger aspects of this investigation proceeded.

AGE-GRADE STATUS

The 1,507 disabled pupils studied in the 1,566 public-school systems of Minnesota were, except from the point of view of physical disability, an unselected group. The age-grade distribution was fairly comparable to that of a school system having approximately the same number of pupils. While the analogy may not hold in every respect, it is sufficiently accurate for comparative purposes. For example, in the first grade all the pupils of the chronological ages six and seven were considered to be in the normal-age group for that grade. Correspondingly, those of ages seven and eight in the second grade were considered of normal age for that grade. That plan was continued throughout the elementary school and high school. It assumes annual instead of semiannual or quarterly promotion in the elementary-school grades. Probably most schools and school systems included in this survey manage their promotions on that plan. The age norms suggested are in keeping with certain standards accepted elsewhere.¹ Except for thirty-eight persons not in school and eight in junior college (not included in the table), the elementary-school grades and the high-school years represented in Table I show a distribution which would probably be similar to a school system

¹ George Drayton Strayer and N. L. Engelhardt, *The Classroom Teacher at Work in American Schools*, p. 126. Chicago: American Book Co., 1920.

TABLE I
DISTRIBUTION OF DISABLED PUPILS IN 1,566 PUBLIC-SCHOOL SYSTEMS IN MINNESOTA
IN SCHOOL YEAR 1928-29 ACCORDING TO AGE AND SCHOOL GRADE*

AGE	KINDER- GARTEN	SCHOOL GRADES ATTAINED												NOT IN SCHOOL	Total
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
5.....	9	3	0	0	0	0	0	0	0	0	0	0	0	0	12
6.....	5	63	3	0	0	0	0	0	0	0	0	0	0	0	71
7.....	2	30	37	2	0	0	0	0	0	0	0	0	0	0	71
8.....	0	13	31	35	2	0	0	0	0	0	0	0	0	0	81
9.....	0	8	21	30	32	4	1	0	0	0	0	0	0	0	96
10.....	0	6	12	29	42	29	5	0	0	0	0	0	0	0	123
11.....	0	2	3	16	24	27	24	2	0	0	0	0	0	0	98
12.....	0	0	1	3	12	30	42	23	4	3	0	0	0	0	118
13.....	0	1	2	4	4	15	23	37	38	10	0	0	0	0	134
14.....	0	0	2	4	4	8	16	31	56	27	0	0	0	3	160
15.....	0	0	1	2	1	4	11	20	39	45	27	2	0	4	156
16.....	0	0	1	1	2	1	2	4	12	25	26	28	6	2	110
17.....	0	1	0	0	0	0	3	1	9	17	21	25	16	0	93
18.....	0	0	0	0	0	0	0	3	1	8	14	19	25	0	70
19.....	0	0	0	0	0	0	1	1	1	3	1	10	18	0	35
20.....	0	0	0	0	0	0	1	1	0	1	1	6	13	0	23
21.....	0	0	0	0	0	0	0	0	0	1	3	1	2	0	7
22.....	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3
Total.....	16	127	114	126	123	118	129	123	160	140	103	92	81	9	1,461

*Thirty-eight children of school age who had never attended school and eight junior-college students are not included in this table.

of the size suggested by the total. Disabled persons six to fifteen years of age, inclusive, who were not in school at the time of the survey were included in the survey since physical disability probably was responsible for their irregular attendance or non-attendance.

Mention should be made of the method used to calculate ages for these distributions. In the collateral studies used here all ages

TABLE II

NUMBERS AND PERCENTAGES OF NORMAL-AGE, OVER-AGE, AND UNDER-AGE
DISABLED PUPILS FOUND IN 1,566 PUBLIC-SCHOOL SYSTEMS
OF MINNESOTA IN SCHOOL YEAR 1928-29

GRADE	NORMAL-AGE PUPILS		OVER-AGE PUPILS*		UNDER-AGE PUPILS*		TOTAL	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Elementary school:								
I.....	93	73.2	31	24.4	3	2.4	127	100.0
II.....	68	59.7	43	37.7	3	2.6	114	100.0
III.....	65	51.6	59	46.8	2	1.6	126	100.0
IV.....	74	60.2	47	38.2	2	1.6	123	100.0
V.....	56	47.4	58	49.2	4	3.4	118	100.0
VI.....	66	51.2	57	44.2	6	4.6	129	100.0
VII.....	60	48.8	61	49.6	2	1.6	123	100.0
VIII.....	94	58.8	62	38.7	4	2.5	160	100.0
Total.....	576	56.5	418	41.0	26	2.5	1,020	100.0
High school:								
IX.....	72	51.4	55	39.3	13	9.3	140	100.0
X.....	53	51.5	41	39.8	9	8.7	103	100.0
XI.....	53	57.6	37	40.2	2	2.2	92	100.0
XII.....	41	50.6	34	42.0	6	7.4	81	100.0
Total.....	219	52.7	167	40.1	30	7.2	416	100.0

* Pupils retarded or accelerated one year or more are considered over-age and under-age.

are shown as of September 1 of the given school year. For the disabled pupils the age given may be as of September 1 or the age at the time of survey. The discrepancy may affect certain outcomes in the distribution. However, it is believed that, where the spread or the difference between groups of data is considerable, the results are not materially affected.

The penalty of physical disability on school attendance is observed in the footnote to Table I showing the number who were denied such privilege entirely. It is noted further in the over-ageness which is apparent in Table II. The fact that this condition tends to

become more marked with each succeeding grade suggests an increase of disability in the case of older children as a result of late school entrance following infantile disablement or other cause. Over-ageness in the high-school years is fairly constant throughout, but the under-ageness is greater than in the elementary school.

Table III gives significant comparisons of the status of the disabled pupils in this study and the status of pupils in certain public-

TABLE III

PERCENTAGES OF NORMAL-AGE, OVER-AGE, AND UNDER-AGE PUPILS AMONG 1,436 DISABLED PUPILS IN 1,566 PUBLIC-SCHOOL SYSTEMS OF MINNESOTA IN 1928-29 COMPARED WITH CORRESPONDING PERCENTAGES IN CERTAIN PUBLIC-SCHOOL SYSTEMS OF MINNESOTA AND SCHOOLS OF MINNESOTA AS A WHOLE*

SCHOOL SYSTEM	ELEMENTARY SCHOOL			HIGH SCHOOL		
	Pupils of Normal Age	Over-Age Pupils	Under-Age Pupils	Pupils of Normal Age	Over-Age Pupils	Under-Age Pupils
1,436 disabled public-school pupils in Minnesota	56.5	41.0	2.5	52.7	40.1	7.2
New Prague	42	33	25	39	9	52
Lake Crystal	60	24	15	58	19	22
Aitkin	50	38	12	38	41	22
All Minnesota schools	62	25	14	52	28	19

* The latter percentages are taken from Fred Engelhardt, *Survey Report, New Prague Public Schools, New Prague, Minnesota*, p. 23. Educational Monograph No. 11. Bulletin of University of Minnesota, Vol. XXX, No. 2. Minneapolis, Minnesota: University of Minnesota, 1927.

school systems investigated earlier. The over-ageness of the disabled group is appreciably higher than over-ageness in any school mentioned except the Aitkin high school. Normal-ageness among the disabled is exceeded by that in the Lake Crystal elementary school and high school and in all Minnesota elementary schools. Under-ageness of the disabled is very low in both elementary school and high school.

The division of rural education in the Department of Education of Minnesota conducted in 1926 an age-grade study of 4,732 unselected pupils in the ungraded elementary schools of three counties, the results of which have not been published. The percentages of normal-age, over-age, and under-age pupils resulting from that study are given in Table IV. A comparison of these data with those in

Table II shows that normal-ageness is greater in the case of pupils in the ungraded schools than in the case of the disabled pupils. It is higher also in individual grades in these schools except in Grades I, IV, and VIII. In every grade under-ageness in the ungraded schools is higher than under-ageness among the disabled pupils. The greatest difference between pupils in the ungraded schools and the disabled pupils is shown by over-ageness, where there is a difference in percentages of 8.6 favoring the ungraded schools. In Grades I and

TABLE IV
PERCENTAGES OF NORMAL-AGE, OVER-AGE, AND UNDER-AGE PUPILS
FOUND IN 1926 AMONG 4,732 PUPILS IN UNGRADED
SCHOOLS IN THREE MINNESOTA COUNTIES

Grade	Pupils of Normal Age	Over-Age Pupils	Under-Age Pupils
I	63.6	28.3	8.0
II	65.3	30.8	3.8
III	68.0	27.7	4.1
IV	51.6	39.2	9.0
V	57.6	33.3	9.0
VI	57.6	34.1	8.2
VII	57.3	36.3	6.3
VIII	57.1	34.0	8.7
Total	60.3	32.4	7.2

IV only do the disabled pupils have a favorable margin, and that is small in either instance. With respect to over-ageness, the differences in the other grades favor the ungraded schools considerably.

The age-grade distribution of disabled pupils in the public-school systems of Duluth, St. Paul, and Minneapolis in the school year 1930-31 is given in Table V. An age-grade study made in the school year 1929-30 of all public-school pupils in Duluth and Minneapolis gave the results shown in Table VI. A comparison of these data with those in Table V brings out certain facts. The percentage of normal-age pupils among the pupils in the elementary schools of the two cities exceeds the percentage of normal-age pupils among the disabled pupils in the schools of the three cities. Under-ageness among pupils in the elementary schools and among disabled pupils appears to be comparable. The greatest difference is again found in

the percentages of over-age pupils, a difference of 8.4 being found between the percentage of over-age pupils among Minneapolis chil-

TABLE V

NUMBERS AND PERCENTAGES OF ALL NORMAL-AGE, OVER-AGE, AND UNDER-AGE
DISABLED PUPILS FOUND IN THE PUBLIC-SCHOOL SYSTEMS IN DULUTH
ST. PAUL, AND MINNEAPOLIS IN SCHOOL YEAR 1930-31

GRADE	NORMAL-AGE PUPILS		OVER-AGE PUPILS		UNDER-AGE PUPILS		TOTAL	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Elementary school.								
I.....	121	76.1	36	22.6	2	1.3	159	100.0
II.....	109	75.7	33	22.9	2	1.4	144	100.0
III.....	110	66.6	43	26.1	12	7.3	165	100.0
IV.....	127	68.6	54	29.2	4	2.2	185	100.0
V.....	119	60.4	67	34.0	11	5.6	197	100.0
VI.....	116	63.7	56	30.8	10	5.5	182	100.0
VII.....	81	55.5	57	39.0	8	5.5	146	100.0
VIII.....	70	58.3	44	36.7	6	5.0	120	100.0
Total.....	853	65.7	390	30.1	55	4.2	1,298	100.0
High school.								
IX.....	66	67.3	28	28.6	4	4.1	98	100.0
X.....	51	75.0	12	17.6	5	7.4	68	100.0
XI.....	24	61.5	8	20.5	7	18.0	39	100.0
XII.....	12	46.2	11	42.3	3	11.5	26	100.0
Total.....	153	66.2	59	25.6	19	8.2	231	100.0

TABLE VI

PERCENTAGES OF NORMAL-AGE, OVER-AGE, AND UNDER-AGE
PUPILS FOUND IN PUBLIC SCHOOLS IN DULUTH AND
MINNEAPOLIS IN SCHOOL YEAR 1929-30*

Grades	Pupils of Normal Age	Over-Age Pupils	Under-Age Pupils
Duluth:			
I-VIII.....	76.9	20.8	2.3
IX-XII.....	68.5	26.5	5.0
Minneapolis:			
I-VI.....	72.3	21.7	6.0
VII-IX.....	56.1	29.2	14.7
X-XII.....	50.4	25.4	24.2

* Taken from unpublished data covering 10,005 pupils in Duluth and 68,892 pupils in Minneapolis, not including those enrolled in kindergarten and special classes.

dren in the first six grades and the percentage of over-age pupils among the disabled pupils in the elementary grades.

Percentage differences between the high schools of these two cities and the disabled pupils show tendencies unlike those discussed in the preceding paragraph. The percentages of normal-ageness favor the Duluth high schools but not the Minneapolis high schools as against disabled pupils. Percentages for over-ageness favor the disabled pupils slightly. Under-ageness indicates a wide range, ultimately favoring the Minneapolis high schools as against disabled pupils by a difference in the percentages of 16.0.

CONCLUSION

The over-ageness of disabled pupils is a fact which stands out with fair distinctness, particularly in the elementary school. Regardless of cause, over-ageness is a manifestation of halting in school progress which cannot be overlooked when school ills are diagnosed and remedies are prescribed. It may be a matter for concern in any school situation, and in the case of the disabled it may be a matter for great concern because of its guidance implications. Since these involve other factors of over-ageness, such as low intelligence, irregular school attendance, unsatisfactory home environment, and the like, this study must await the outcomes of investigations of these matters among such children before further procedure is undertaken.

PRACTICE MATERIAL IN THE ESTIMATION OF THE QUOTIENT IN LONG DIVISION FOUND IN CURRENT TEXTBOOKS

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A casual examination of textbooks in arithmetic will show that there is little uniformity in the method advised for estimating the quotient in long division. Little uniformity is also found in the numbers and kinds of practice exercises provided in the case of quotients of varying degrees of difficulty. In order to show the extreme diversity in textbooks with regard to the treatment of the practice exercises in long division, the writer, with the assistance of a group of teachers, made an analysis of nine textbook series.

The selection of the textbooks to be studied was based on two criteria: First, the recency of the publication of the book was a dominant factor. Other things being equal, the most recent textbook available was selected. Second, the method which the author suggests for estimating the quotient was a factor in the selection of a textbook. It would not have been desirable to select only textbooks which use the apparent method nor to select only books which use the increase-by-one method for estimating the quotient. On the basis of these criteria nine series were chosen. The books intended by an author for use in Grades III-VIII were considered a series. Each series, except one, was composed of three books.

The nine textbook series used in this study may be grouped into three classifications. The first group includes books which use the apparent method of estimating the quotient. In this method the tens' figure is used as a guide figure for all divisors. The second group includes books which use the increase-by-one method of estimating the quotient. In this method the tens' digit is the guide figure when the units' figure is a number from 1 to 5, but, when the units' figure is a number from 6 to 9, the tens' figure is increased by one. The third group is composed of books which use some modifica-

tion of the increase-by-one method. In one textbook series the divisors which end in 8 and 9 are treated by the increase-by-one method. In another series the increase-by-one method is used for divisors which end in 7, 8, and 9. In the third series in this group the apparent method is used when the units' figure of the divisor is a number from 1 to 4, inclusive, and the increase-by-one method is used when the units' figure is 5 or more. In each of these three classifications there are three textbook series. Throughout this study the textbook series will be designated by letters of the alphabet. The classification of the books, the code letters, and the dates of publication of the series are given in Table I.

TABLE I
CLASSIFICATION OF TEXTBOOK SERIES WITH RESPECT
TO METHOD USED IN ESTIMATION OF QUOTIENT

Textbook Series	Method of Estimation	Year of Publication
A.	Apparent	1925
B.	Apparent	1927
C*	Apparent	1927
D.	Increase-by-one	1928
E.	Increase-by-one	1929
F.	Increase-by-one	1927
G.	Irregular	1930
H.	Irregular	1931
K.	Irregular	1928

* This series contains five books. This textbook is not published in a three-book series

In the study of each series only those long-division examples were considered in which the divisor was a two-figure number. Examples in which the units' figure was zero were also eliminated. Each estimation was considered separately. Hence, if the quotient contained four figures, the example counted as four different estimations. If zero occurred in the quotient, the example was counted as an estimation just as if zero were a significant figure. The only examples considered were those which occurred in the abstract form. If the numbers in the examples were written as dollars and cents or as decimals, the examples were not included in the study. Likewise, the divisions required to solve the verbal problems in the books were not listed. Therefore, the pupil who uses any of the textbooks analyzed will actually secure more practice in division than is indicated by the

tables given later in this study. It is not advisable to include in a study of this type the uses of a process required by verbal problems because division is not the chief consideration in such exercises. In problems requiring division and in the division of decimals, the performance of division is not the chief objective.

CLASSIFICATION OF DIVISORS IN LONG DIVISION

In a previous article¹ the writer showed that the estimation of the quotient may be classified according to the ease in estimating the correct quotient figure and the ease in determining the need for correction of the estimated figure. When an analysis is made on this basis, the following classification is necessary for the apparent method.

1. Examples in which the quotient is self-evident.
2. Examples in which the estimated quotient is the true quotient.
3. Examples in which the true quotient is one less than the estimated figure but the need for correction is self-evident.
4. Examples in which the true quotient is one less than the estimated figure but the need for correction is not evident.
5. Examples in which the true quotient is two less than the estimated figure.
6. Examples in which the true quotient is three less than the estimated figure.
7. Examples in which the divisor is a "division demon." The divisors from 13 to 18 represent this group.

When the increase-by-one method is used, the following classification of the estimations is tenable.

1. Examples in which the quotient is self-evident.
2. Examples in which the estimated quotient is the true quotient.
3. Examples in which the true quotient is one less than the estimated quotient but the need for correction is immediately evident.
4. Examples in which the true quotient is one less than the estimated quotient but the need for correction is not immediately evident.
5. Examples in which the true quotient is two less than the estimated figure.
6. Examples in which the true quotient is one more than the estimated figure.
7. Examples in which the true quotient is two more than the estimated figure.
8. Examples in which the divisor is a "division demon."

¹ Foster E. Grossnickle, "Classification of the Estimations in Two Methods of Finding the Quotient in Long Division," *Elementary School Journal*, XXXII (April, 1932), 595-604.

For an explanation of each of these classifications the reader is referred to the previous article by the writer. In the same article the apparent method was recommended for all divisors having a units' figure from 1 to 8, inclusive; divisors ending in 9 are treated as special cases and estimations of the quotient are made by the increase-by-one method. For that reason all examples having divisors ending in 9 are given as special cases in this study, and only the total number of estimations of these divisors in a given series is recorded. If an analysis of the estimations were made for divisors ending in 9, the classification would be threefold:

1. Examples in which the quotient is self-evident.
2. Examples in which the estimated figure is the true quotient.
3. Examples in which the true quotient is one more than the estimated figure but the need for correction is evident.

Since divisors ending in 9 are treated in the same way by either the apparent method or the increase-by-one method, there is no need to classify the estimations.

CLASSIFICATIONS OF THE ESTIMATIONS IN NINE CURRENT TEXTBOOK SERIES

As each classification of estimations is given in the tables, the total possible number of such estimations is shown. The number of possible examples for each group is taken from Tables I and III in the previous article by the writer. In any list of estimations given here several duplications of the same combinations may have occurred. Thus, in the case of the self-evident group, there is a possibility of 4,200 estimations. If an author gives a total of 250 self-evident estimations, this number may include two or more estimations of the example $24 \overline{)26}$. If this same example should occur five times, five different estimations are recorded in the summary table for the self-evident group. In the number of possible examples, however, there are no duplications. The classifications of the results for the three textbook series which use the apparent method are shown in Table II.

This table shows a wide variation among the textbook series in each of the classifications. The greatest range is in the group of divisors ending in 9. In these textbooks the pupil is instructed to use the

apparent method for all divisors. Under such conditions the pupil will estimate the quotient by the apparent method for divisors ending in 9 unless the teacher shows him the increase-by-one method or the pupil is ingenious enough to devise this procedure for himself. If the apparent method is used for divisors ending in 9, the estimated quotient will require correction in almost 55 per cent of the cases,

TABLE II
CLASSIFICATIONS OF ESTIMATIONS IN THREE TEXTBOOK SERIES USING
APPARENT METHOD OF FINDING THE QUOTIENT FIGURE

CLASSIFICATION	POSSIBLE NUMBER OF EX- AMPLES	TEXTBOOK SERIES A		TEXTBOOK SERIES B		TEXTBOOK SERIES C	
		Number of Examples in Series	Percent- age of Possible Number	Number of Examples in Series	Percent- age of Possible Number	Number of Examples in Series	Percent- age of Possible Number
Quotient is self-evident . .	4,200	42	1.00	163	3.88	240	5.71
Estimated quotient is true quotient	22,052	599	2.72	807	3.66	1,187	5.38
True quotient is one less than estimated quotient, but need for correction is evident	4,366	79	1.81	134	3.07	155	3.55
True quotient is one less than estimated quotient, but need for correction is not evident	6,983	244	3.49	156	2.23	345	4.94
True quotient is two less than estimated quotient . .	672	20	2.98	23	3.42	88	13.10
True quotient is three less than estimated quotient . .	37	0	0.00	3	8.11	6	16.22
Divisor ends in 9	5,310	23	0.43	126	2.37	348	6.55
Division demons	930	47	5.05	153	16.45	182	19.57
Total	44,550	1,054	2.37	1,565	3.51	2,551	5.73

and in some cases the true quotient is five removed from the estimated figure. Hence, if the apparent method is used for divisors ending in 9, the implication seems reasonable that the practice exercises should include many examples using such divisors. Table II shows that one author uses less than 0.5 per cent of the number of possible examples in this group in the exercises in his series. It is seen that Textbook Series C gives over fifteen times as many examples in this group as Textbook Series A.

Table III shows an analysis of the three textbook series in which the increase-by-one method is used to estimate the quotient. In this

method the guide figure does not change when the units' figure is 5 or less; when the units' figure is 6 or more, the guide figure is increased by one. Although there is considerable range in the classifications given in Table III, there is not so much discrepancy among the textbooks as is found among the textbooks included in Table II. Perhaps the most noteworthy variation in Table III occurs in the total

TABLE III
CLASSIFICATIONS OF ESTIMATIONS IN THREE TEXTBOOK SERIES USING
INCREASE-BY-ONE METHOD OF FINDING THE QUOTIENT FIGURE

CLASSIFICATION	POSSIBLE NUMBER OF EX- AMPLES	TEXTBOOK SERIES D		TEXTBOOK SERIES E		TEXTBOOK SERIES F	
		Number of Examples in Series	Percent- age of Possible Number	Number of Examples in Series	Percent- age of Possible Number	Number of Examples in Series	Percent- age of Possible Number
Quotient is self-evident	4,200	191	4.55	90	2.14	149	3.55
Estimated quotient is true quotient	25,656	1,113	4.34	378	1.47	559	2.18
True quotient is one less than estimated quotient, but need for correction is evident	2,781	150	5.39	22	0.79	39	1.40
True quotient is one less than estimated quotient, but need for correction is not evident	2,415	52	2.15	18	0.75	28	1.16
True quotient is two less than estimated quotient	108	14	12.96	2	1.85	1	0.93
True quotient is one more than estimated quotient	3,142	98	3.12	95	3.02	75	2.39
True quotient is two more than estimated quotient	8	0	0.00	0	0.00	1	12.50
Divisor ends in 9	5,310	237	4.46	59	1.11	99	1.86
Division demons	930	106	11.40	64	6.88	42	4.52
Total	44,550	1,961	4.40	728	1.63	993	2.23

number of examples given in the various books. Textbook Series D offers nearly three times as many estimations as Textbook Series E.

In Table IV the results are given for the estimations found in Textbook Series G, H, and K. These books suggest that a modified form of the increase-by-one method is to be used in estimating the quotient. Textbook Series G uses the apparent method for divisors having units' figures of 1-7, inclusive, and the increase-by-one method for divisors ending in 8 and 9. Textbook Series H uses the

apparent method for divisors which have the units' figures of 1-6, inclusive, and the increase-by-one method for divisors ending in 7, 8, and 9. Textbook Series K uses the apparent method when the units' figure of the divisor is a number from 1 to 4, inclusive, and the increase-by-one method is used when the units' figure is 5 or more. Because these procedures are deviations from either of the two accepted methods of estimating the quotient, these methods are

TABLE IV

CLASSIFICATIONS OF ESTIMATIONS IN THREE TEXTBOOK SERIES USING IRREGULAR METHODS OF FINDING THE QUOTIENT FIGURE

CLASSIFICATION	TEXTBOOK SERIES G			TEXTBOOK SERIES H			TEXTBOOK SERIES K		
	Number of Possible Examples	Number of Examples in Series	Percentage of Possible Examples	Number of Possible Examples	Number of Examples in Series	Percentage of Possible Examples	Number of Possible Examples	Number of Examples in Series	Percentage of Possible Examples
Quotient is self-evident . . .	4,200	386	9.19	4,200	86	2.05	4,200	129	3.07
Estimated quotient is true quotient	23,858	1,113	4.67	25,060	392	1.56	25,656	380	1.48
True quotient is one less than estimated quotient, but need for correction is evident	3,870	212	5.48	3,341	93	2.78	2,191	15	0.68
True quotient is one less than estimated quotient, but need for correction is not evident	5,251	140	2.67	3,717	42	1.13	1,375	6	0.44
True quotient is two less than estimated quotient . . .	414	18	4.35	230	7	3.04	43	1	2.33
True quotient is three less than estimated quotient . .	13	0	0.00	2	0	0.00	0	0	0.00
True quotient is one more than estimated quotient .	704	68	9.66	1,760	32	1.82	4,802	101	2.10
True quotient is two more than estimated quotient .	0	0	0.00	0	0	0.00	43	3	7.00
Divisor ends in 9	5,310	262	4.93	5,310	100	2.05	5,310	86	1.63
Division demons	930	193	20.75	030	19	2.01	030	74	7.96
Total	44,550	2,392	5.37	44,550	780	1.75	44,550	795	1.78

considered irregular. The classifications of the estimations are given in Table IV. Since the methods are not uniform, the number of possible examples in each classification will change.

Textbooks Series G and H show great variations in the number of examples provided in which the quotient is self-evident and in the number of examples in which the divisor is a division demon. In the first group Textbook Series G has almost four and one-half times as many examples as Textbook Series H. For the division demons Textbook Series G offers over ten times as much practice as Text-

book Series H. The demons constitute the most difficult group of divisors. A priori reasoning would lead to the conclusion that a textbook series which offers only about 2 per cent of the possible number of estimations in this group gives inadequate practice on these difficult divisors.

Within each major group of textbooks there is a wide range in the number of estimations in each classification. When any classifica-

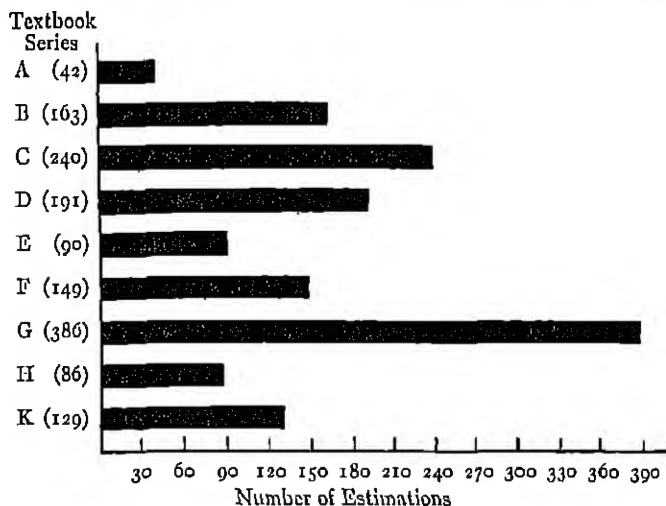


FIG. 1.—Number of estimations given in nine textbook series in which the quotient is self-evident.

tion of estimations is considered for all the nine series, great variation is found. Three classifications merit special consideration: (1) the total number of estimations which are self-evident, (2) the total number of estimations which must be corrected to give the true quotient when the need for the correction is not immediately evident, and (3) the total number of estimations which are given in a book.

When the quotient is self-evident, the partial dividend is either in the same decade as the divisor or in a lower decade. Therefore, this classification must of necessity include the examples which have zero in the quotient. A comparison of the number of estimations found in the books analyzed in which the quotient is self-evident is shown in Figure 1. It must be remembered that in this group of estimations are included those which have zero for the quotient. The

studies of Osburn,¹ Lazar,² and Buswell and John³ show that zero difficulties constitute one of the major sources of error in long division. When two-figure divisors are considered, there are five distinct types of examples which have zero in the quotient.⁴ If the zero difficulties are real rather than implied, then a pupil who uses a textbook series containing only forty-two estimations in the self-evident group will have little opportunity to secure an adequate understanding of this classification. On the other hand, it is doubtful whether 386 estimations in this classification are necessary. If the latter number is about the correct number to insure proper learning of this group, how inadequate must be a textbook series which has fewer than one hundred estimations of this type!

To the writer the most difficult step in long division appears to be the finding of the true quotient when the estimated quotient is not the correct figure and the need for correction is not immediately evident. If the division demons are excluded, the true quotient may be three less than the estimated figure when the apparent method is used and either two more or two less when the increase-by-one method is used. It is, then, reasonable to assume that, if the pupil is to learn to find the true quotient, he must be given much practice in which the estimated figure must be corrected when the need for this correction is not self-evident. The lack of uniformity of the treatment given this classification in the textbook series used in this study is shown in Figure 2. A study of this figure shows that Textbook Series C contains more than five times as many estimations in this classification as Textbook Series H. Furthermore, the former series uses only the apparent method. The pupil who uses Textbook Series H will need to have supplementary exercises supplied by the teacher or by practice pads in order to learn how to solve easily

¹ Worth J. Osburn, *Corrective Arithmetic for Supervisors, Teachers, and Teacher-training Classes*, pp. 32, 54. Boston: Houghton Mifflin Co., 1924.

² May Lazar, *Diagnostic and Remedial Work in Arithmetic Fundamentals*, pp. 58-59. New York: Bureau of Reference, Research and Statistics, Board of Education, 1928.

³ G. T. Buswell, with the co-operation of Lenore John, *Diagnostic Studies in Arithmetic*, p. 139. Supplementary Educational Monographs, No. 30. Chicago: Department of Education, University of Chicago, 1926.

⁴ *Arithmetic—Elementary Schools*, pp. 28-29. Research Monograph No. 2. Denver, Colorado: Public Schools, 1926.

examples which illustrate this classification. If supplementary exercises are not necessary for the pupil using Textbook Series H, the pupil who uses Textbook Series C wastes considerable time in over-learning this particular classification.

Another wide range in current practices among the different textbooks is found in the total number of estimations provided in practice exercises. Of course, it is impossible at present to know how

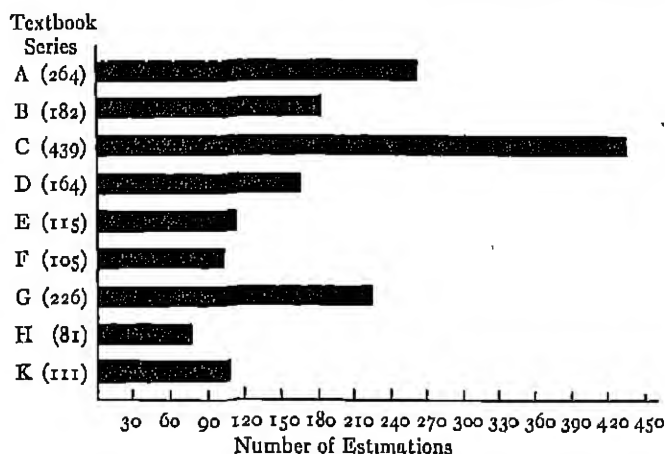


FIG. 2.—Number of estimations given in nine textbook series in which the estimated figure must be corrected to find the true quotient when need for correction is not self-evident.

many estimations are essential to enable a class to learn all the intricacies of long division. As a result, an author supplies what he considers an adequate number of exercises. One would naturally expect to find more unanimity of opinion as to what this number should be than is reflected in Figure 3. It is seen that Textbook Series C offers more than three and one-half times as many estimations as Textbook Series E. Although a much more important factor than the number of estimations is the allocation of these estimations among the various classifications outlined in this study, yet mere number gives a fair index of the adequacy of a textbook series to meet the requirements of long division. The median number of examples offered by the nine series studied is 1,054. This number is almost 50 per cent more than is offered in two of the series and much less than 50 per cent of the total number given in two other series.

Such discrepancies warrant the conclusion either that the textbooks which include the smallest numbers of exercises offer too few examples or that the textbooks offering the largest numbers of examples provide too many estimations. When these series of textbooks are used in the classroom, the pupil must either underlearn the division process through the use of books which provide too few estimations or he must overlearn the process through the use of books

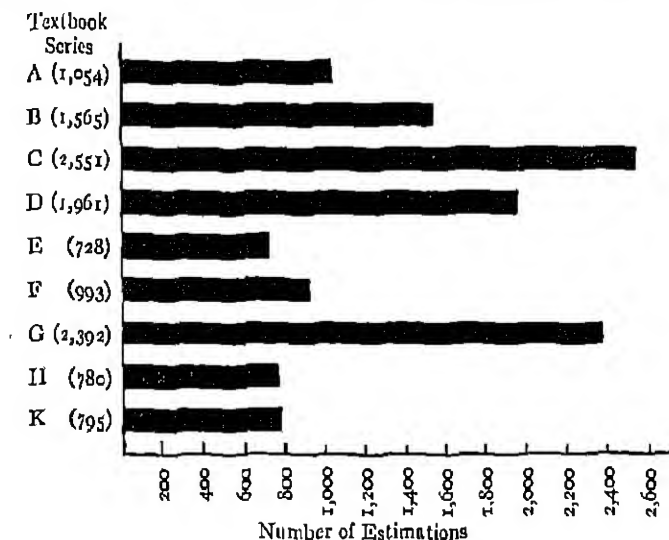


FIG. 3.—Total number of estimations for significant two-figure divisors in long division found in nine textbook series.

which contain an abundance of estimations. If the teacher follows the textbook blindly, textbooks of both types are highly unsatisfactory.

SUMMARY AND CONCLUSION

Much disagreement exists as to the proper method of procedure for estimating the quotient in long division. It has been shown in this study that there are three distinct methods: the apparent method, the increase-by-one method, and the irregular method. This situation is comparable to the situation in subtraction, in which there are likewise three distinct methods of procedure. However, the experimental evidence to justify a given procedure is certainly much less in the case of division than in the case of subtraction.

Before it can be determined which method should be used in estimating the quotient, experimental procedure must show the difficulty of learning a one-rule procedure for both estimation and correction compared with the difficulty of learning a two-rule procedure. The results of such experimental investigation will determine whether the apparent method or the increase-by-one method, or some combination of the two, is to be used to estimate the quotient. Then the next major problem to be solved in this field consists in determining the relative difficulty of the various stages in the estimation of the quotient. Such data would enable one to approximate the number of estimations that should be included in each of the classifications outlined in this study. If empirical experimentation indicates that the time required for a pupil to learn how to find the true quotient when the need for correction of the estimated figure is not evident is twice as great as the time required for him to learn the process when the need for correction is immediately evident, the practice exercises in textbooks can be adequately constructed to meet this difficulty. Current practice gives little, if any, consideration to this important factor. Throughout this study only the factor of estimation of the quotient was considered.

The tables and graphs in this study show that variability is the chief characteristic of the practice exercises in long division offered in current textbooks. Certainly the ultimate objective of teaching long division is that the pupil shall be able to perform the operation accurately within a reasonable length of time. Since the objective is clear, experimental research should show the best means to achieve that objective. The writer can think of few "hard spots" in arithmetic which offer more promise to the research worker than long division. Until many needed researches are made in this field, current practice in the estimation of the quotient will probably continue to be characterized by extreme variability.

THE HANDWRITING LESSON AND THE "OTHER" SUBJECTS

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The teacher is often challenged with the question: "How can I get handwriting to carry over to the other subjects—spelling, arithmetic, language, and history?" May not the solution to the problem be found in the use of the spelling or arithmetic or language or history lesson as subject matter for study and drill in the handwriting period?

Of the total amount of writing done by a child, by far the greater part is done in school. The writing consists mainly in the content of the spelling, language, arithmetic, and history lessons in the form of dictated, copied, or test material. The spelling, language, and arithmetic will, then, be better written if the child uses this material for handwriting practice. "We learn to do by doing." Consequently, the child learns to write his spelling lessons well by practicing the spelling words he is required to write; he learns to write the language lessons well by practicing the language work he is required to write. Dr. Thomas Briggs, of Teachers College, Columbia University, has rightly said that one of the aims of education is to teach children to do better those desirable things which they will do anyway. Thus, the child will write better that which he has to write anyway by practicing on those "anyways," namely, spelling, arithmetic, language, etc.

A program of activities in the teaching of handwriting should, therefore, be built around the subjects which necessitate written work. The child should practice on content subject matter in the handwriting drill period and thus become aware of the fact that he is practicing the written work of his spelling, arithmetic, language, and history lessons in order to learn to write better all the required subject matter. If this plan is carried out, the handwriting drill pe-

ried ought not to become an artificial activity—an activity carried on merely because it is scheduled on the program.

The activities described in the following paragraphs have been used successfully by a training school in a teachers' college in the efforts to get handwriting to carry over to the other subjects.

1. The written work in language, spelling, history, and other content subjects is used as the subject matter for study, criticism, and drill in the formal handwriting practice period. The handwriting difficulties exhibited by each child in the written work other than the handwriting practice work is criticized in red ink by the student teacher of the subject. Only the one or two most glaring writing errors are criticized, and these criticisms are the basis for practice in the handwriting lesson. Uneven alignment is indicated by a cross under those letters which extend above or below the base line. Uneven height of letters is indicated by a continuous horizontal line drawn across the top of the small or the tall letters. Abrupt or poorly finished ending strokes are indicated by completing the stroke with red ink. Consistently poor letter forms are circled in red ink. Sometimes the error is indicated by writing the correct form beside the incorrect form. A good form found among many poor letters is also circled but marked "good." Comments of a sentence or two are often written by the student teacher at the bottom of a pupil's paper, praising a commendable piece of work, adding a word of encouragement, or asking the pupil questions about his work.

2. The daily written work in the content subjects is marked not only for excellence in the particular subjects but also for the neatness of the written work and for the quality of writing. A rubber stamp, which reads as follows, is used for this purpose.

Subject _____
Neatness _____
Writing _____

The criticized papers are used for study and practice in the next handwriting period, are filed in a "handwriting pocket," or are returned to the children either to be rewritten or to be taken home. A wall case consisting of five pockets attached to a large sheet of heavy paper—each pocket marked with one of the letters A, B, C, D, E—is tacked to the wall. In these pockets are deposited the

written papers from other subjects graded according to the quality of handwriting.

3. The handwriting drill period is devoted to practice on the handwriting difficulties exhibited by each child in his papers in the "regular" subjects. Consequently, individual and group work in handwriting is carried on. In criticizing a set of written papers, the student teacher often finds that a number of children in the class have made the same writing errors. Such children are grouped together, and a list of the children's names in each of the groups is written on the blackboard with an indication of the writing difficulty on which the group needs practice. Not more than three groups are formed, since experience has shown that no more than this number can be handled effectively. The student teacher discusses the writing difficulty with each group, the discussion usually consisting in the study of a model in the handwriting manual, a comparison of the model with the form on the pupils' papers, demonstrations on the board of the correct form, criticisms of the form written on the board, and instructions to the group for their practice on paper.

4. The marks in handwriting for each quarter are based not on the written work done in the handwriting drill period but on the quality of handwriting done in the written work in spelling, language, arithmetic, history, etc.

5. Any child in Grades II-VI, inclusive, who attains the Ayres norm in speed and in quality for his grade in all his written work is excused from the formal handwriting drill period. A student teacher submits to the supervisor the names of those pupils who in her opinion have attained the Ayres norm in quality in their written work in the content subjects. If, after looking over the written work of these children, the supervisor, student teacher, and critic teacher agree that the child has attained the standard, he is excused from the handwriting practice lessons and may spend the period in reading or in study. If at any time the pupil falls below his grade norm, he is required to resume practice.

6. Commendable work in neatness, arrangement of work, or the form of a letter, or marked improvement in written work other than handwriting practice is given recognition by being exhibited on the bulletin board or wall. The work which is to be exhibited is selected

by the student teacher or by a committee of children. The papers exhibited are usually labeled with small descriptive signs, such as "Best work in τ today," "Most improvement today in alignment," "Good for height of letters," "Neatest papers today." When a paper which shows improvement in some particular writing problem is exhibited, a paper of an earlier date written by the same child is placed side by side with his latest "improved" paper. Such a plan exhibits the "before-practice" and the "after-practice" results and shows the child clearly and objectively his degree of improvement as the result of practice.

7. Attainments and degrees of improvement in handwriting speed and quality are recorded every quarter in two types of booklets.

A "temporary" booklet shows graphically by a chart and objectively by the child's written specimens the speed and quality of his writing every nine weeks of the school year. The child's specimens of writing are pasted to the lower half of a sheet of construction paper nine by twelve inches in size, and a graph showing his scores on speed and quality compared with the norm for his grade is pasted on the upper half of the construction sheet. This "temporary" booklet serves four specific purposes: (a) It shows the child graphically and objectively the progress he is making every nine weeks of the school year. (b) It shows the child his own progress compared with the progress of his classmates. (c) It shows the student teacher, critic teacher, and supervisor the effectiveness and success of the teaching done by each student teacher. (d) It shows the parents the progress the child has made during the school year. These booklets are given to the children at the end of the year.

A second booklet, the "continuous" booklet, is constructed and arranged somewhat as is the "temporary" book, but the continuous booklet shows the speed and quality of writing graphically and objectively at the time the child enters the second grade and subsequently at the end of his second, third, fourth, fifth, and sixth years of school. At the end of each school year these booklets are exhibited in the classrooms so that each child may see his own progress and the progress of his classmates from year to year. When the child leaves the training school at the end of his sixth year, he is given this booklet. He then has specimens of his writing from the time he first began

formal handwriting lessons to the completion of his elementary-school career. What fun the fifth- and sixth-grade children have when they look at their writing done in the second and the third grades!

8. Fountain pens, being accepted today as practical writing instruments, may be used by the children in all work for which ink is used. The child should learn to use in school the instrument which he will probably use outside the school. Consequently, beginning with the grade in which ink is first used, the children have the privilege of writing with fountain pens.

9. Drill exercises, such as "push-pull's" and ovals, are eliminated from the drill work. Instead, practice on words, sentences, and paragraphs taken from the content subjects constitutes the material for the drill lesson.

Of the foregoing activities, the four which have been the keystones in a program to develop in the child an appreciation of the value of the handwriting drill lesson are the following: (1) using the written work in spelling, language, arithmetic, geography, history, and other "regular" subjects for drill material in the formal handwriting period; (2) planning the handwriting lesson in terms of each child's handwriting difficulties as evidenced in his written work in the content subjects; (3) excusing children from the formal handwriting drill lessons when they attain in all their written work the speed and quality equal to the Ayres norms for their grade; and (4) allowing the use of fountain pens in all work requiring ink. Thus, the handwriting period becomes a means toward an end—good written work in the "other" subjects—because it is not the written work of the handwriting drill lesson which is stressed but the written work in those "other" subjects.

Educational Writings

REVIEWS AND BOOK NOTES

A clarifying treatment of the guidance function.—In the course of its short history the guidance movement has suffered seriously from misunderstanding of its nature and scope. Some of its most enthusiastic promoters have voiced definitions which have obscured rather than elucidated; most commonly they have failed to differentiate the function of guidance from the whole task of education. Others have treated guidance so narrowly as to offer no adequate conception of the fundamental part it plays in achieving modern educational ideals.

Clarification of the concept of guidance is a major contribution of a recent noteworthy volume¹ in that field. The authors state in the opening chapter:

There are two main phases of the concept of guidance accepted for this book. These are (1) the *distributive* and (2) the *adjustive* phases. In discharging the former phase we aim to (1) *distribute youth as effectively as possible to educational and vocational opportunities . . .* In the second, we (2) *help the individual to make the optimal adjustment to educational and vocational situations. . . .*

It is in the nature of the distributive phase of guidance to be concerned primarily with those activities of life in which differentiation is the rule. . . . The adjustive phase is, on the other hand, pertinent and necessary across all of life's relationships . . . without regard to the appropriateness of differentiation [pp. 15-16].

The entire comprehensive treatment reflects in both its content and organization this definition of guidance. Following the introductory chapter, the book is divided into four parts: Part I, comprising six chapters devoted to principles and procedures in informing students about educational and vocational opportunities; Part II, composed of five chapters describing principles and practices in gathering information from students and in measuring their abilities, interests, and character traits; Part III, two chapters pertaining to the counseling of individual students in typical situations involving distribution and adjustment; Part IV, seven chapters dealing with the organization of guidance service and the activities of deans, counselors, home-room advisers, and other guidance functionaries.

The logical nature of this sequence of parts may be appreciated if one bears in mind that distributive and adjustive activities with the individual student (Part III) can

¹ Leonard V. Koss and Grayson N. Kefauver, *Guidance in Secondary Schools*. New York: Macmillan Co., 1932. Pp. xii+640. \$2.50.

hardly be begun until he has some information concerning opportunities and we have considerable information concerning him. Not until this full range of activities in an adequate program of guidance has been canvassed are we in a position to consider the kind of organization of guidance service required (Part IV) [p. 26].

In its type of content and treatment this volume is comparable to the previous works of the senior author. The literature of the field has been canvassed with amazing thoroughness. Pertinent facts have been skillfully selected, organized, and interpreted. Graphic representation has been employed extensively but with discrimination.

A salient feature of the content is the report of the authors' extensive original and hitherto unpublished research into guidance practices based on surveys of 336 high schools and 52 junior colleges. The facts revealed by these investigations are skillfully woven into nearly every chapter. While they constitute a noteworthy contribution to the volume, they are not played up to overshadow the well-rounded treatment of any of the topics.

The reader of this book must inevitably come to certain conclusions which vitally concern adequate performance of the guidance function and the accomplishment of the purposes of modern secondary education. The insufficiency of viewing guidance and organizing it as ancillary to vocational education is made more transparent than heretofore. That guidance is not merely a service rendered to the pupil at critical moments but a thoroughly integrated and continuous function of the progressive school, is made evident. That guidance is not just a counselor sitting in an office but an activity in which all school workers play a part, and therefore a task of which all should possess understanding, is made obvious. While there is little of specific reference to the elementary school, by implication it is plain that the essential broadening of the pupil's horizon; the study of his capacities, interests, and limitations; and the adjustment of the individual to the life and the work of the school must begin with the kindergarten and go forward continuously. Since the book bears such valuable contributions to a point of view in education, it should be widely read by teachers and administrators as well as by counselors, deans, and advisers.

PERCIVAL W. HUTSON

UNIVERSITY OF PITTSBURGH

Improvement of instruction in rural schools.—In recent years numerous books on various aspects of supervision have been published, most of them dealing with urban situations. They were written primarily for the generalist in urban supervision. Very little has been written dealing with the problem of improving instruction in rural communities, where the conditions faced by the rural supervisor are almost wholly different from those in cities. Rural teachers are usually poorly trained; the school year is short; one teacher must teach many classes covering several grades of work; the curriculum is often antiquated; school buildings are generally small, poorly equipped, and inadequately planned. In

some states effective supervisory organizations are being developed. On the other hand, in many states there is practically no supervision of instruction of any kind in the rural schools. In the book under review¹ these conditions are vividly presented, and concrete suggestions as to principles and methods of improvement are discussed. Both authors have drawn on their rich backgrounds of experience and their researches in rural supervision for a wealth of detail and illustration unusual in a book on supervision.

The fifteen chapters in the book are divided into five parts. Part I, "The Problem of Rural-School Supervision," deals concretely with the status of the rural school and types of rural supervisory organizations currently found. In the two chapters of Part I is presented in compact form a more complete factual picture of conditions in rural schools in the country as a whole than the reviewer has ever found in any book. The authors have presented the pertinent results of investigations by others as well as their original researches, some of which have not been previously published. These two chapters should be read by every administrator and teacher in the country because the deplorable conditions that are revealed should be in the consciousness of every citizen.

Part II, "Prerequisites for Effective Rural-School Supervision," deals with the principles underlying the planning of supervision, the budgeting of the supervisor's time, and suggested workable daily teaching schedules for small schools. In these chapters are presented some new data on current practices of rural supervisors. Illustrative programs of supervision which describe what to the authors appear to be desirable supervisory practices are included and evaluated. Helpful suggestions are given which will aid the teacher to reorganize the work of the classes in such a way as to reduce the number of classes taught each day. Techniques of organizing the classwork into large teaching units are illustrated. The fine types of material here presented are definite evidence that teaching in rural schools can be raised to relatively high levels.

In Part III, "Finding Facts as a Basis for Supervisory Procedure," supervisory uses of tests and measurements and techniques of classroom visitation are described. The point is made that a supervisor who ordinarily cannot visit a teacher more than once or twice a semester must use other devices for collecting data as to current teaching practices. Some authorities maintain that each teaching situation is "unique" and must be dealt with accordingly. The claim is made that it is therefore impossible to organize comprehensive supervisory programs on a fact basis through assembling data descriptive of current practices in a number of schools. Anderson and Simpson take what seems to be a sounder position when they say: "After he [the supervisor] has visited a number of classrooms, he will find that, in addition to meeting novel situations, he is meeting certain situations common to school after school. . . . Such prevailing difficulties, after conferences with teachers and after testing surveys, may well

¹ C. J. Anderson and I. Jewell Simpson, *The Supervision of Rural Schools*. New York: D. Appleton & Co., 1932. Pp. xiv+468. \$2.50.

engage the attention of the entire teaching force of the county" (p. 69). Teaching is such a variable activity that the difficulties revealed by a single short visit may be trifling compared with the major weaknesses not revealed at the time of the visit. The program of fact-finding as the basis for planning supervision described by the authors is heartily indorsed. Their recommendations are summarized in a statement of principles. Their point of view concerning the relations between supervisors and teachers is well expressed in the statement: "The supervisory program should be an expression of the combined judgment of teachers, supervisors, and others concerning the known and felt needs of the pupils and teachers of the rural schools" (p. 73).

Part IV, "Promoting the Professional Growth of Teachers," deals with individual conferences, group meetings, demonstration lessons, supervisory bulletins, the making of the course of study, and methods of rejuvenating the county institute. All these points are concretely illustrated with a wealth of material drawn from all parts of the country.

Part V, "The Appraisal of Rural-School Supervision," summarizes the experimental evidence on the value of supervision and outlines needed research in the field. The authors believe that "the application of scientific techniques to rural supervision will do much to relieve it of its subjective and dogmatic character" (p. 456).

This book serves admirably the needs of students of supervision in quest of a comprehensive view of current state and rural supervisory organization and practices. It is likewise a convenient source of reliable information as to instruction in rural schools. The critical evaluation of data presented and the clean-cut summaries at the close of each chapter are valuable contributions. Because of the wealth of "tried-out" illustrative materials included, the volume should be invaluable to those interested in, and concerned with, the problem of improving instruction in rural schools. Legislative action can be facilitated through a careful perusal of the evaluation by the authors of various state plans of rural supervision now in operation. The style of the book is direct, clear, and concrete. Numerous photographic illustrations add to its attractiveness. The book is an outstanding contribution to the growing literature in the field of supervision.

LEO J. BRUECKNER

UNIVERSITY OF MINNESOTA

Tendencies in the training of special-class teachers.—During recent years society has recognized more and more clearly its obligation to educate and to train children who are mentally and physically handicapped, and in many sections of the country definite provision has been made for them. The establishment of special classes for such children has created a demand for technically-trained teachers. In attempting to meet this need, state boards of education have made rulings relative to certification requirements, and teacher-training

institutions have developed special courses and curriculums. In the absence of clearly established guiding principles, regulations and curriculums have often been adopted which differ significantly. Such differences present opportunity for intensive productive investigation. A study by Schleier¹ summarizes and interprets current practices with respect to the training of special-class teachers and lays the foundation for further research in this field.

The purpose of the study, in the words of the author, is fourfold:

(1) To present a digest and an analysis of the laws . . . pertaining to the education and training of mentally-handicapped and physically-handicapped children in the public schools; (2) to give the rulings of state boards of education relative to the preparation of teachers for such classes and to evaluate these rulings in the light of plans suggested by expert students of special education and by selected teachers in the field; (3) to make a survey of courses and curriculums now offered in the various institutions of higher learning for the preparation of teachers and supervisors of special classes; and (4) to propose a teacher-training program for teachers of mentally-handicapped and physically-handicapped children in the public schools (p. 1).

Following a brief introduction, the report of this study is divided into four chapters which are devoted in turn to the four purposes outlined in the preceding paragraph.

The sources of data consulted include copies of state laws and rulings of the state boards of education with regard to the training of special-class teachers; current catalogues of various types of institutions which train teachers; the literature in the field of special education; and information received from interviews with authorities, supervisors, and teachers in different fields of special education. The data secured were analyzed carefully and classified under significant headings. The practices and trends revealed were examined, criticized, and evaluated in the light of the opinion of experts in the field of special education. On the basis of the findings and their critical interpretation, a tentative program for the preparation of special-class teachers in various fields is proposed.

The study in general is very creditably done. Unusual thoroughness was exercised in securing reliable information. Great care was observed in the selection of specific sources for study. Keen discrimination is evidenced in the analysis and classification of significant items of information. Good judgment is displayed in the critical evaluation of current practices. The report presents, therefore, an excellent summary and interpretation of present tendencies in the training of special-class teachers. It should prove valuable to those interested in the training of prospective teachers in this field and to school officers who are charged with the responsibility of their selection and in-service training.

The recommendations growing out of the study are forward-looking and constructive. They take into account both significant trends in the field and the judgments of experts. In his effort to provide helpful recommendations, the

¹Louis M. Schleier, *Problems in the Training of Certain Special-Class Teachers*. Teachers College Contributions to Education, No. 475. New York: Teachers College, Columbia University, 1931. Pp. viii+138. \$1.50.

investigator has doubtless been more explicit and positive at certain points than his data justify. It would have been very helpful if he had set forth controversial issues in the field more clearly and had outlined problems for additional study. Nevertheless, the report is very illuminating and helpful.

WILLIAM S. GRAY

Problems of personality.—So much that is purely speculative has been written on the subject of personality that one is inclined to approach Burnham's volume of more than seven hundred pages with a certain amount of hesitancy. Fortunately, however, one finds that Burnham manages to keep out of the fields which have been "ballyhooed" by the so-called "mental hygienists" and attempts rather to develop a mental-hygiene program on the basis of the known facts about personality. For example, he does not discuss mental hygiene and marriage, mental hygiene and politics, and other such topics, which have become the vogue in popular publications dealing with mental hygiene. Instead, Burnham devotes eighteen well-written chapters to a discussion of problems of personality and their implication for mental hygiene.

One is a bit disappointed in the "soft" language of the author. He speaks constantly of the *wholesome* personality until one begins to believe that it is something rare and begins to anticipate something new in the way of a definition or interpretation. One soon finds, however, that the author is as hazy about the term "wholesome" as is the reader. The impression is gained that the author refers to wholesomeness as the integration of personality. What, then, is integration? That, one gleans from the book, is a harmonious relationship of the various factors of personality—factors which are "the result of both inheritance and environment." This explanation still leaves one in the dark.

The author is modern in his language and in his treatment of the experimental material which he cites. It is disappointing, therefore, to read the list of factors which he considers make up human personality. Among these factors he names attention, wisdom, psychophysical energy or will, and knowledge. He leaves the reader with the impression that, as a matter of diplomacy, he includes all factors in order not to offend their sponsors, whether psychologists or educators.

The material and references the author cites and discusses are sufficient to keep any student busy for a six-month course at least. As a textbook in problems of personality or mental hygiene, this volume should satisfy the most exacting instructors. Unfortunately, there is little experimental material in the literature which one can read with satisfaction. Burnham offers a voluminous bibliography, not all of which is good. He cites many so-called "experiments on personality" which many scientists would consider of doubtful value.

The German literature especially has attracted the author, and he spends

* William H. Burnham, *The Wholesome Personality: A Contribution to Mental Hygiene*. New York: D. Appleton & Co., 1932. Pp xxvi+714 \$2.75.

page after page giving details of investigations by German psychologists. Many of these investigations are far below the standards developed in our own child-development institutions or have little relation to the problem of wholesome personality. Indeed, many of them show a rather naive attempt to investigate personality. On pages 11 and 12 the study by Zoepffel is cited. According to Burnham, Zoepffel ("*Ein Versuch zur experimentellen Feststellung der Persönlichkeit im Säuglingsalter*," *Zeitschrift für Psychologie*, III [1929], 273-306) tested twenty babies in the first year of life. The stimuli were moving a gold watch back and forth, playing on the mouth harmonica, the sound of the human voice in praise or blame, pricking and stroking parts of the body, and the use of simple sweets and salts for taste stimuli. The responses were noted with respect to constancy, promptness, and liveliness in laughing and crying. The responses indicated individual differences. Some children were slow, phlegmatic, dull; others were quick and amiable and responded with distinct pleasure. Burnham says of Zoepffel's paper, which was published in 1929: "This investigation has great importance as a pioneer study and illustrates a method that can be used in definitely determining personality differences in young children" (p. 11). Burnham's comment leads us to believe that he is unfamiliar with the maturer work published before Zoepffel's experiment. Had the author been less eager to quote as many investigators as he could find and had he attempted to cover fewer topics, this book most likely would have been much more reliable than his previous work, *The Normal Mind*.

In his attempt to be judicious, the author dissipates his arguments. He apparently is much taken by Spearman's division of intelligence factors and states that this division into a general factor and specific factor also holds for personality.

The abundance of material contained in the book is perhaps a drawback rather than an aid. It makes possible the many repetitions and the frequent lapses in sequence which occur. Nevertheless, the author has a great deal of new material which should be of help to the serious student of personality.

The reviewer wonders why an author writing a book on personality or mental hygiene feels that it is his duty to moralize. Authors writing on these subjects frequently begin to be sort of missionaries, taking upon themselves the duty of projecting their sociological theories onto their readers. Burnham, for example, spends thirteen pages (pp. 502-15) in discussing the problems of automobile fatalities, the relation between automobile accidents and concepts of patriotism, the difference between the number of Americans killed during the World War and the number killed during one year by automobiles. During this discussion a paragraph is thrown in about the bad effects of unpreparedness during the World War with the implication that, if we had been prepared, the number of fatalities would have been reduced. The moral seems to be: "Use mental hygiene." There is no denying that reckless drivers are in need of mental hygiene, but such discussions are nonsense. The material in this discussion,

while carried out effectively, belongs properly in the pages of propaganda of some patriotic society.

By far the best chapters are those concerned with adolescence and with the genetic point of view. The material is well presented and in fair sequence, but again the author has written too much; that is, he attempts to discuss too many problems with the result that many are presented in a sketchy manner.

As a reference book, this volume is excellent. As a textbook, it is too sketchy in many places and too burdensome with details in others.

MANDEL SIEMAN

Pupil adjustment in a progressive school.—How a well-organized, intelligently-administered, and adequately-staffed school deals with the problems of pupil adjustment is presented in the first of a new series of Horace Mann School Studies in Education.¹ The book is an excellent introduction to the series, the purpose of which is "to present such developments and applications of 'sound educational theory' as have been achieved in the school, which, in the opinion of the editorial board, can be adapted to public-school education" (p. v). The first study presents a brief statement of the philosophy and principles which underlie the activities of the Horace Mann School in attempting to bring about the adjustment of each child. Such problems are discussed as the classification of pupils, the adjustment of individual differences, the integration of interests and activities of the school staff for constructive effort toward pupil adjustment, individual pupil records and reports, and the school's responsibility for superior children.

The book is not a general treatise on child adjustment. It deals with the theory and practice of one progressive school. The practicability of good theory is made evident throughout.

HERMAN G. RICHIEY

A textbook on educational measurement for the kindergarten and the first six grades.—The procession of books on educational measurements appearing during the past ten years has been a result of the rapid production of educational tests and the desire of instructors giving courses in this field for a treatment restricted to a limited section of our educational system. The second reason is given for the publication of a book² the scope of which is confined to the kindergarten and the first six grades. Following four relatively brief introductory chapters and approximately one hundred pages devoted to intelligence tests, a chapter is devoted to each of the following subject-matter fields: reading,

¹ Cecile White Flemming, *Pupil Adjustment in the Modern School*, Horace Mann School Studies in Education (New Series). New York: Teachers College, Columbia University, 1931. Pp. xii+94.

² L. W. Webb and Anna Markt Shotwell, *Standard Tests in the Elementary School: Nursery School to Sixth Grade*. New York: Ray Long & Richard R. Smith, Inc., 1932. Pp. xiv+532. \$2.75.

arithmetic, spelling, handwriting, language, English composition, geography, history and civics, music, and art education. The textbook ends with a chapter on general-achievement tests and a chapter on non-standard classroom tests.

The general plan of the chapters devoted to achievement tests is the same. After a brief introduction devoted primarily to comments on the objectives of the school subject, a limited number of tests are described. These descriptions are followed by a brief discussion of the uses of achievement tests in the field. Each chapter closes with a brief list of references and a selected list of available tests.

The evaluation of a textbook depends on the criteria by which it is judged. The volume by Webb and Shotwell is primarily a compilation of descriptions of certain tests. In most cases illustrations of the test exercises are given. Frequently the directions for administering the tests are produced. Occasionally norms are given, but there is almost no information concerning the validity or the reliability of the instruments. Although the reviewer recognizes that an elementary, descriptive treatment of educational tests suitable for use in the first six grades will doubtless be welcomed by some instructors in teacher-training institutions, he believes that, even in a first course of educational measurements designed for teachers in the elementary school, there should be a definite attempt to acquaint the student with the principles of measurement and to stimulate him to build up in his own mind criteria which will serve as a basis for the wise selection of tests for use and for intelligent interpretation of the measures obtained. When judged with reference to such criteria, this book cannot be rated particularly high. It is to the credit of the authors that they frankly state that the book was not written for the technical expert but for the orientation of the beginner in the field of measurement. The reviewer, however, would maintain that the beginner is not adequately oriented until he understands the limitations of the measurement process and realizes the significance of these limitations in the various fields of achievement. For example, it has been shown by Willing that language tests of the proofreading type do not yield valid diagnoses of language errors. If a prospective teacher is told about language tests without any reference to this significant limitation, his knowledge about this group of measuring instruments will be decidedly incomplete and essentially erroneous.

WALTER S. MONROE

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Educational News and Editorial Comment

A DEFINITION OF THE FUNCTIONS OF A STATE EDUCATIONAL SYSTEM

By an act passed by the legislature of California in May, 1931, the governor of that state was authorized to engage the services of an educational-research foundation to make a survey of tax-supported education in California of higher than high-school grade. The survey was undertaken by the Carnegie Foundation for the Advancement of Teaching. The Foundation used its own staff to assemble the necessary facts but assigned to an independent commission of seven, organized under its auspices, "the task of interpreting and appraising the pertinent facts and of recommending the policies and operations needed in the future." The following nationally known educators were members of the independent commission: L. D. Coffman, Charles H. Judd, O. R. Latham, A. B. Meredith, James E. Russell, George F. Zook, and S. P. Capen, chairman. The Foundation has accepted the recommendations of the commission without amendment and has transmitted them to the governor of the state as the recommendations of the Foundation.

In making its recommendations, the commission felt that it should undertake to define the fundamental principles of public policy which should be applied in the development of a state educational system. Such a definition of policy is very timely, not only for California, but for the entire nation. Such is the case because under the pressure of economy our system of values is being disturbed and in many instances seriously modified. Everywhere school officials and the public are facing the problem: What is of most worth in education?

The statement of policy formulated by the commission and approved by the Carnegie Foundation merits careful consideration. The complete statement follows.

The staff of the Carnegie Foundation having submitted to the commission its analysis of the educational situation in California above the high school, the commission presents herewith its recommendations, constituting a "suitable future policy and plan of operation," to be made effective by whatever legislative resolutions, statutes, and constitutional amendments are necessary to enable the appropriate policy-making bodies and administrative officers to bring the recommendations into operation, and to stimulate better co-operation among the citizens to these ends.

The commission finds that much of the confusion in the educational system arises from the fact that no authority competent to plan and speak for the state as a whole has determined in clear and unmistakable terms the social and educational functions to be performed by various units of the system in serving the present needs of civilization in California.

The commission therefore suggests that the following statements concerning the functions of the educational system be accepted as the basis for a resolution by the legislature, which shall serve to declare its own future policy and to guide the people of the state and the various boards and officers charged with the performance of educational services.

THE FUNCTIONS OF THE EDUCATIONAL SYSTEM

The fundamental functions of the state educational system are to educate the people to greater and greater competency, in performing

First, the general social obligations of citizenship or membership in American civilization required of all men and women and,

Second, the particular or specialized services to society allotted to different occupational groups, membership in any one of which is a matter of individual choice and fitness.

These educational functions correspond with the two types of requirement which modern social life lays upon every citizen. Every person has social, political, or other responsibilities which he should bear in common with other per-

sons, as in his membership in the family, the neighborhood, the local community, the state, the nation, and humanity at large. On the other hand, every person has, under our economic system of subdivision of work or services, a particular obligation which he meets, usually by the services he renders through his special remunerative occupation.

The first function of the common school system.—It is the primary and fundamental function of the common school system extending from the earliest years of schooling, through kindergarten, elementary school, junior and senior high school, and the junior college, to educate the citizen for effective participation in all those common understandings and co-operations which are necessary to sustain the best in our complex contemporaneous civilization which is American.

Our common schools must be dedicated primarily to educating men and women so that they may work and live together more successfully in and through the institutions of a civilization that must be constantly adapted to changing conditions. Failure of citizens to understand many of our current problems and their tragic inability to co-operate in the solution of them constitute one cause that has led to breakdowns in our current civilization.

A common school system rededicated to the original social purposes which warranted tax support by all the citizens of the state, must aim mainly at the fullest possible development of a social rather than a selfish personality. It will seek to develop an enlightened citizenship, rather than an enlightened selfishness. Much of the current criticism of the behavior of citizens as the product of schools is based on the fact that the common schools, above the elementary school, are not really utilized by the student nor fully managed by teachers and administrators for this fundamental civilizing purpose. When this ideal is realized, subject boundaries will be less sharply defined. New and more practical groupings of materials will be devised, and the process of learning will be reorganized, much as is now being done in comprehensive courses at some 160 institutions in the United States. Problems will become more important than topics, libraries than textbooks.

The points at which public and professional criticism are now mainly directed are the secondary rather than the elementary stages of general or common schooling. That reform has been at work for some time in the field of secondary education is attested by the increase in junior high schools, senior high schools, and junior colleges. Modifications of the curriculum, changed methods of teaching and learning, educational and vocational counseling are merely additional symptoms of the attempt to meet current dissatisfaction with the schools as they are or have been. A complete reconstruction, somewhat similar to that which began in the elementary school in the eighties and nineties seems now well inaugurated in the secondary stages of general education.

The reconstruction of secondary education, necessarily a concern of this commission which deals with its later stages in the junior colleges and the lower divisions of the teachers' colleges and the university, will involve several marked changes from the traditional outlook and method

In the first place, secondary education will be not less intellectual but more social and adaptive. It will be directed toward giving the student an understanding of the natural and social world in which he lives. The mastery of the academic letters, arts, and sciences will be no longer the end of his school mastery, but the educational means of understanding life. Whatever other resources of experience lie outside of the traditional disciplines, such as industrial arts and fine arts, will be utilized with full scholastic respectability as valued aids in realizing the new and broader conception of the human and social purposes of the common schools.

In the second place, secondary education will focus its attention more steadily on contemporaneous life, with its oncoming problems. The lag between what the school teaches and what present and impending citizenship requires will be decreased. Scholarship, once chiefly related to the past, will now be related to the present, with study of the past still highly valued to the extent that the contributions of the past inevitably persist in the present.

Third, schooling will not be thought of as practically the end of education or learning, now too commonly and so fatally the case. Education will be regarded as a continuous process, coterminous with life, to which schools merely give impetus for further and continuous personal inquiry and growth. An education at school will be regarded as preparatory to continuous adult learning. How much academic ground is covered in the school building under a licensed or accredited teacher, will no longer be so important as it has been. What one learns anywhere in life, and the degree to which one has the impulse and power to continue to learn and think accurately, will be far more important to all concerned—to the world, to the university, and, most of all, to the student himself.

The second function of the common school system.—It is a second and equally important function of the educational system to prepare young people for productive living. In so far as the individual differences of students—intellectual, social, economic—warrant, this end will be accomplished through occupational training of different types.

The most significant body of psychological fact concerning human nature that has recently influenced our thinking or our action is that which reveals the astounding range of individual differences in a social or school population. People are not all alike. To believe they are and to treat them as though they were is to commit a grave human injustice to many individuals, and to deprive society of the use of their full powers. Social and educational justice is far more nearly realized by treating students differently than by treating them identically.

Differentiated treatment is necessary the moment individual differences begin to assert themselves in such a manner as to make inadequate the traditional curriculum and method of common schools. It may first express itself in allowing or providing a different mode of approach to the study of the world and civilization.

Inability or lack of interest exhibited by a pupil demands a redirection of intellectual interest and provision for a shift of educational emphasis. A change

of emphasis from the academic to other domains of arts, letters, or science, on the part of a student, often salvages a school career and acts as a spur to continuous learning. After some years of common schooling a considerable portion of students in compulsory attendance show a lapse of interest. The fact that such persons display limited ability in liberal studies may indicate that their chief powers lie in other directions than the purely literary or mathematical. Here arises the necessity for providing vocational courses of a quality and value equal to, and co-ordinate with, those of an academic nature. This situation involves growing numbers of cases as larger and larger groups of the population move through the school system toward the upper levels of common schooling. New intellectual opportunities and new opportunities for specialized, vocational training are then plainly indicated, the more so because little by little the school has been forced to assume responsibilities that the home and industry cannot or will not longer perform. But in all such cases the trade or industrial teacher still has the responsibility of socializing or civilizing the student through connecting in the fullest possible extent his vocational activity with the rest of civilized life. Sometimes late, sometimes early, the readjustment just implied takes place for every student.

The main function of the university system.—It is, the main function of the university system, which includes the upper divisions of colleges, the graduate schools, and the professional schools, to educate specialists for the strategically important social services which modern civilization requires, and to do this with full regard to the number of such specialists that society can utilize. Among the specialized callings for which the university system educates are research, teaching, the ministry, the law, medicine and surgery, engineering, and similar professions.

Provision for general education in the United States commonly closes at the end of the second college year, or at the end of the lower division or junior college. Certainly, it is a very general practice throughout the United States, particularly in most institutions west of the Appalachian Mountains, to begin scholarly concentration in the arts, sciences, and letters with the third (or junior) college year, that is, with the senior college proper, and to begin either professional or specialized pre-professional education at the same stage in school progress. The exceptions, though conspicuous, merely accentuate the general trend of current practice.

In California both the university and the teachers' colleges recognize a functional articulation between the lower and upper divisions, and legislative enactment recognizes that the local, but state-aided, junior college (or college, as it perhaps ought to be termed), is a part of the provision for tax-supported secondary education.

A profession may be provisionally defined as "a vocation involving relations to the affairs of others of such a nature as to require for its proper conduct an equipment of learning or skill, or both, and to warrant the community in making restrictions in respect to its exercise." The effective or ineffective perform-

ance of professional duties is preservative or destructive of some fundamental potentiality, right, or other value of crucial importance to society or the individual. For this reason ethical practice is as important as expert practice. This is obviously true respecting a career in law, medicine, teaching, engineering, or the ministry and ought to be true respecting journalism and business management. Complete devotion to professional specialization is not now usually regarded as the major undertaking of the student until the conclusion of the period of liberal, general, or civilizing schooling.

Since expert practice is essential to make devoted ethical interest effective in result, special pre-professional training is often required in studies basic to professional understanding. Mastery of practical skill is usually acquired under mature supervision in either an internship or an apprenticeship. In further protection of society, the state finally licenses only those graduates who meet its standards.

The selection of those students who are promising material for such specialized professional education and the determination of the nature of their preliminary or professional education, should rest not with the common schools, but with the university. The university should utilize the advice of its professional teachers and those actively engaged in professional practice, as well as the findings now available from modern personnel studies.

The right to admit to specialized courses is properly lodged in the university system, but in so far as the university method of judging the ability and educational promise of the applicant is antiquated and inadequate, injustice ensues to the individual and therefore ultimately to society. Of such injustice the layman has a right to complain.

The right of the university to refuse admittance to a professional course requiring special and high qualifications rests in some measure upon other grounds than that of personal fitness. The commission is not unmindful of the necessity of giving some attention to the relation of supply to the probable demand in the several professions. Only a limited number of certain types of professionals can be utilized by society, and overproduction in these particular fields may readily become a social and professional evil, as well as an unwarranted cost to the university and the public. For this reason, admission to some professional schools will soon become, if it is not already, a matter of discriminative selection. Every large consideration involved in this problem of professional school admission—whether it be personal or social, financial, or professional—confirms this policy. The selective functions of a university system are primarily social in purpose, and the individual is and ought to be of secondary consideration.

What has been said of admission to specialized professional schools in the university may not at first thought seem to apply to all those who seek admission to the senior college of arts, letters, and science. The university should be concerned not only with clearly professional subject matter but also with the various fields included within the division of letters, the arts, and the sciences, which from their very nature prepare through special mastery for superior civic serv-

ice. The same discriminative and selective principles must be exercised in admitting students to the senior college as are applicable in respect of the professional schools.

THE EXPANSION OF EDUCATION IN THE UNITED STATES

The *Biennial Survey of Education in the United States, 1928-1930*, published by the United States Office of Education, contains data

TABLE I

KINDERGARTEN, ELEMENTARY, COMMERCIAL, SECONDARY, NORMAL-SCHOOL
AND COLLEGE ENROLMENTS, 1900-1930

Schools	1900	1910	1920	1930
Kindergartens (public and private).....	225,394	346,189*	510,949	777,899
Public elementary schools and kindergartens.....	14,983,859	16,898,791	19,378,927	21,278,593
Private elementary schools and kindergartens (largely estimated).....	1,240,925	1,558,437	1,485,561	2,309,886
Total elementary and kindergarten	16,224,784	18,457,228	20,864,488	23,588,479
Public high schools	519,251	915,061	2,109,389†	4,399,422
Private high schools	110,797	117,400	213,920†	341,158‡
Preparatory schools (in colleges and universities).....	56,285	66,042	59,309	47,309
Secondary students in normal schools.....	9,570	12,890	22,058	11,978
Total secondary students	695,903	1,111,393	2,494,676	4,799,867
Normal schools and teachers' colleges (excluding secondary students)	69,593	88,561	135,412	161,524
Colleges, universities, and professional schools (excluding preparatory students). . . .	167,999	266,654	462,445	924,275
Total college and normal students.....	237,592	355,215	597,857	1,085,799
Private commercial and business schools.....	91,549	155,244	335,161	179,756§

* 1912.

† From state reports

‡ 1928

§ 1929

which reveal the striking expansion of American education since the opening of the present century. The expansion of education in this country during the past three decades has been unparalleled in the history of the world. Marking, as it does, a new attitude toward

childhood and the development of a new social policy, this remarkable expansion in education is one of the most significant social changes of our time. Table I reveals something of this expansion.

It will be noted that enrolment in the elementary school has increased each decade at a practically constant rate of 13 to 14 per cent. The number of secondary-school pupils increased about 60 per cent from 1900 to 1910. Since 1910 secondary-school enrolment

TABLE II
NUMBER OF STUDENTS TAKING SOME FORM OF COLLEGE WORK, 1900-1930

YEAR	UNIVERSITIES AND COLLEGES			TEACHERS' COLLEGES			COLLEGIATE STUDENTS IN NORMAL SCHOOLS		
	Regular Year	Summer Session	Extension, Correspondence, and Short Courses	Regular Year	Summer Session	Extension, Correspondence	Regular Year	Summer Session	Extension, Correspondence
1930 . . .	924,275	249,150	204,044	118,411	119,111	52,290	43,113	19,745	7,799
1928	868,793	239,570	202,074	114,618	120,019	61,090	46,627	23,187	7,082
1926	767,263	209,454	273,235	85,207	92,588	40,076	49,609	38,419	11,508
1924	664,266	189,943	144,858	58,896	74,619	32,362	11,240	13,563	16,927
1922	550,906	148,063	119,708	56,432	72,248	24,665	.....	.....	10,790
1920	462,445	94,838	83,100	54,721	38,011	13,360	.....	.....	5,202
1918	330,689	78,059	50,314	.....	.....	.....	.....	.....	.....
1916	354,325	89,438	.....	.....	.....	.....	.....	.....	.....
1915	303,233	83,234	.....	.....	.....	.....	.....	.....	.....
1910	266,654	.....	.....	.....	.....	.....	.....	.....	.....
1905	199,045	.....	.....	.....	.....	.....	.....	.....	.....
1900	167,999	.....	.....	.....	.....	.....	.....	.....	.....

has approximately doubled in each decade. College enrolment increased about 50 per cent from 1900 to 1910, 68 per cent from 1910 to 1920, and 82 per cent in the last decade.

Table II presents data on the number of students taking some form of college work.

Critics of the American educational system not infrequently assert that there are in our high schools and colleges many students who are mentally incapable of doing the work there. In view of such criticism, the facts with respect to high-school and college graduation are very significant. Despite the rapid expansion of high-school enrolment, the percentage of high-school graduates for the decade 1920-1930 increased more rapidly than the percentage of high-school

enrolment. Of even greater significance is the fact that, whereas the number of college students increased 82 per cent from 1920 to 1930, the number of college graduates increased 159 per cent.

The increasing number of high-school and college graduates is shown in Table III.

According to the estimates of the Office of Education, there were in 1930 approximately 1,694,000 living college graduates and 7,437,000 living high-school graduates who had not taken a college degree.

TABLE III
NUMBER OF HIGH-SCHOOL AND COLLEGE GRADUATES

Year	High School	College
1890	43,731	14,306
1900	94,884	25,324
1910	156,429	34,178
1920	311,266	47,326
1930	643,166	122,484

These figures mean that in every 1,000 of the adult population there were 23 persons with a college degree and 102 persons who had graduated from high school but not from college. About one-eighth of the adult population had continued their education through high school or beyond.

THE STATUS OF STATE EDUCATIONAL ASSOCIATIONS IN THE UNITED STATES

A recent bulletin of the Bureau of School Service of the University of Kentucky is entitled *A Critical Analysis of the Present Status and Significant Trends of State Education Associations of the United States*. During the past quarter of a century there has been a remarkable expansion in the membership of these organizations. In 1907, for example, the total membership in all the states was only 65,993, or 13.8 per cent of the teachers in the country. By January 1, 1930, the membership had increased to 697,775, an increase of 957.3 per cent. On the latter date 76.8 per cent of the teachers were enrolled in professional organizations. At present thirty-four associations have full-time executive secretaries, whereas in 1919 only seven state educational associations provided for such service

Thirty-nine associations publish journals. The annual expenditures of the state education associations amount to approximately \$2,000,000.

The following statement summarizes the objectives set up and the objectives achieved by the state associations.

Eight associations maintain placement bureaus, thirty-one do not; one association owns a preventorium, thirty-eight do not; three associations have some connection with homes maintained for aged and needy teachers, thirty-five do not; and seven associations provide group insurance for teachers while thirty-two do not. Thirty-four associations favor a federal department of education with a secretary in the president's cabinet; five have taken no action in this matter; twenty-seven associations favor selecting a state superintendent by appointment either by the governor or by a state board of education; twelve have taken no action in the matter; thirty-one associations favor minimum qualifications for elementary teachers; eight have not considered the question; seven associations favor a single-salary law for teachers; thirty-one have taken no action, and twenty-seven associations report that the question of a law providing for a periodical leave of absence for teachers has not been considered. Fourteen associations have taken no action concerning a teacher-tenure law; two oppose such a law while ten secretaries are in favor of a law which makes some provision for compensating teachers when absent because of illness; five oppose it; and twenty-four have not considered it. Twenty favor a law providing for kindergartens; four oppose it; and fifteen are noncommittal. Twenty-four secretaries do not know what position the associations should take with respect to a retirement-fund law. Fifteen secretaries are in favor of free textbooks; eight oppose them; and sixteen have not considered the question.

The final conclusion reached by the author of the bulletin is as follows:

The final conclusion of this study is that the teachers of the United States and the educational institutions should be more aggressive in exercising a continued social pressure which will mold and expand group consciousness on educational issues. The teaching profession should formulate a program that will deserve respect and then demand that its program be respected. The conditions of teaching may not be improved materially until there is a militant economic program worked out on a sound educational basis and supported by the teaching profession. Since teaching is a civil service, it may not be improper for teachers to consolidate their votes on politico-educational issues. The state education associations should probably do more to mold public opinion and to create educational sentiment, both of which are so essential for intelligent school legislation and control.

THE HIGH COST OF EDUCATION IN SMALL SCHOOLS

There are in this country somewhat more than 150,000 one-teacher schools. In many, if not most, of these schools the number of pupils in attendance is so small that the cost per pupil is greatly in excess of the cost per pupil in the larger schools. Evidence is not lacking to show that the small rural elementary school is not only inefficient but extremely costly. The same criticism may with equal propriety be directed against a great many small high schools. A recent investigation of the cost of education in the small schools of South Carolina reveals a condition which exists, no doubt, in other sections of the country. The investigation was reported in the *United States Daily* by Henry L. Fulmer, Division of Research and Information, Department of Education of South Carolina. The following paragraphs are quoted from the report.

The daily teacher salary cost per pupil in average daily attendance in all-white elementary schools is as follows: for the one-teacher elementary schools, 33.2 cents; for the two-teacher elementary schools, 28.9 cents; for the three-teacher elementary schools, 25.8 cents, for the four-teacher elementary schools, 23.3 cents; for the five-teacher elementary schools, 22.6 cents, six-teacher elementary schools, 21.8 cents; seven-teacher elementary schools, 21.3 cents, eight-teacher elementary schools, 19.7 cents.

There is a marked decrease in cost in each succeeding teacher size from \$0.332 in the one-teacher schools to \$0.197 in the eight-teacher schools. Further study shows that this reduction in cost continues through the fifteen-teacher schools, with slight variations in the nine- and twelve-teacher schools.

This reduction in cost in the larger elementary schools does not continue. On the contrary, a slight increase is noted over the previous low point.

The daily teacher salary cost per pupil in average daily attendance for the white high schools can be seen as follows: in two-teacher high schools, 52.6 cents, in three-teacher high schools, 44.9 cents, in four-teacher high schools, 40.2 cents; in five-teacher high schools, 35.4 cents; in six-teacher high schools, 32.9 cents; in seven-teacher high schools, 33.2 cents, in eight-teacher high schools, 30 cents.

It is seen from these figures that a very similar trend is found in the high schools as was shown in the elementary schools. There was a decrease in daily pupil cost from \$0.526 in the two-teacher high schools to \$0.30 in the eight-teacher high schools. In the larger teacher size high schools, this cost appears to increase slightly over the low-cost point shown in the eight-teacher high school.

Although the small elementary schools maintain the lowest salary scale, the highest cost per pupil is found in these schools, due to the low teacher load. The

reverse is the case in the fifteen-teacher schools. Here the load is highest, the cost is the lowest, even though the salary scale is higher than in the smaller schools.

One notes the highest cost and the lowest load in the small high schools. In the high schools, due to such factors as a small teacher load throughout and a higher salary scale, the cost remains higher for the high schools than for the elementary schools.

This study has shown a wide difference in the daily teacher salary cost per pupil in average daily attendance between the small schools and the large schools. In some instances, for both elementary and high schools, the cost in the small schools is almost twice as much as the cost in the larger schools. For instance, the cost in the one-teacher elementary schools is \$0.332 while the cost in the fifteen-teacher schools is \$0.169; the cost in the two-teacher high schools is \$0.526, while the cost in the eight-teacher school is \$0.30; the ten-teacher, \$0.305.

If all schools operated for 180 days, the annual teacher salary cost per pupil in average daily attendance would be \$59.72 for one-teacher elementary schools, while the fifteen-teacher schools would be \$30.42; the same for the two-teacher high schools would be \$94.68, and \$54 for eight-teacher or \$54.90 for the ten-teacher high schools.

In a study on the cost of school transportation in South Carolina, it was found that the median cost of transporting an elementary pupil for this state was \$0.089 per day, while \$0.136 was the median cost of transporting a high-school pupil. Therefore, with these figures at hand, the following elementary- and high-school cost data are presented: Daily teacher salary cost per pupil in average daily attendance in one-teacher elementary schools, \$0.332. Daily teacher salary cost per pupil in average daily attendance in eight-teacher elementary schools, \$0.197. Average daily cost of transporting an elementary pupil, \$0.089. Total, \$0.286. Difference in favor of transporting and teaching in eight-teacher elementary schools, \$0.046.

Daily teacher salary cost per pupil in average daily attendance in two-teacher high schools, \$0.526. Daily teacher salary cost per pupil in average daily attendance in eight-teacher high schools, \$0.300. Average daily cost of transporting a high-school pupil \$0.136. Total, \$0.436. Difference in favor of transporting and teaching in eight-teacher high schools, \$0.090.

From the above figures, it is important to note that the combined cost of transporting an elementary pupil and the average teacher salary cost per pupil in average daily attendance in the eight-teacher elementary schools is less than the salary cost per pupil in the one-teacher schools. In other words, the pupils from the one-teacher schools, under average conditions, could be transported and taught in eight-teacher schools cheaper than the same pupils can be taught in the one-teacher schools. One can see the advantages gained by the child in the eight-teacher schools over the one-teacher schools through improved educational offering, as well as an additional value in money invested when the child

can be given forty-five-minute instead of fifteen-minute recitations. In the high schools, it is of interest to note that the average cost of transporting high-school pupils plus the teacher salary cost per pupil in the eight-teacher high schools is less than the teacher salary cost alone per pupil in the two-teacher high schools.

Under the proper school administrative control and centralization, transportation of pupils effects a considerable saving in school expenditures and at the same time affords an excellent opportunity for improved school offering. Often school transportation, when not considered in its proper application, is thought of as merely giving the children a ride at the expense of the public.

With county-wide control of schools, under a strong board and a capable school administrator as the professional head, we could effect much savings of school cost and at the same time, establish a better school system, especially for the rural children. Of the many things that may be done for greater economy and efficiency in our schools, the regulation of transportation and the control of teacher load are most prominent.

In order to effect these changes in a successful way, a complete change from the inadequate and expensive district plan would be necessary.

YOUTHFUL TEACHERS IN ONE-ROOM SCHOOLS

The foregoing statement regarding the high cost of education in small schools may be supplemented by statistics on the immaturity of teachers in these schools. The following statement was published in the *United States Daily*. It was based on data supplied by the United States Office of Education.

For the nation as a whole 23.5 per cent of all teachers of one-room schools are twenty years of age or younger.

The states of West Virginia, Louisiana, Missouri, Iowa, Michigan, and Arkansas show, respectively, the following percentages of very young teachers in one-room schools: 40.6, 38.8, 37.2, 35.3, 34.5, and 33.6. Several additional states could be cited as showing more than one-fourth of these teachers as being twenty years of age or younger.

Georgia shows 21.9 per cent of these teachers between the ages of seventeen and eighteen. Nebraska and Arkansas show, respectively, 17.2 and 12.4 per cent in these age groups.

A considerable number of the teachers of rural schools are not yet sixteen years old. For the nation as a whole, 0.2 per cent of the teachers of one-teacher schools are of this very youthful age.

Wisconsin shows 1 per cent in this group; Massachusetts and Arkansas each show 0.8 per cent; California, 0.7 per cent; and Illinois, 0.6 per cent. Twelve of the other states show persons sixteen years or younger employed in the one-teacher schools.

Other detailed evidence could be cited to show the extreme youth of a large

part of the teaching staff of one-teacher schools. The brief discussion will serve to point out that the matter of the youth of the candidate is still a problem of real concern in the rural schools and that this problem is largely limited to the smaller rural schools.

It is pertinent to question the wisdom of permitting such young teachers to be employed in the rural schools, especially when it is remembered that they are largely without supervision, that their tasks are particularly responsible and complex, and that the future of the child is so largely in their hands.

THE USE OF THE RADIO IN GERMAN SCHOOLS

The following statement was published in the *United States Daily*.

On the basis of data received and compiled by the German Central Office for School Radio, educational broadcasts in Germany show a significant growth. In 1930 there were 13,000 schools equipped with radio apparatus compared with about 20,000 in 1931. As there are 55,000 schools in Germany, this means that every third school now affords the use of radio in teaching.

The majority of schools that lack radio equipment are included, as would be expected, among outlying rural elementary schools, and they represent 83 per cent of the whole number which participate in the work of "school radio," as educational broadcasts for school purposes are described. The remaining 17 per cent are divided between the elementary schools in the cities, representing 10 per cent, and the secondary schools, representing 7 per cent.

The development of the German school radio on the listener's side has been maintained by the broadcasting organizations co-operating with the school-radio offerings. The number of offerings supplied for instruction in the schools has been increased correspondingly. In 1930 the total number of school broadcasts was about 1,500. The number increased to 2,000 in 1931.

These broadcasts were distributed generally as follows: 480 musical offerings, or 24 per cent; 440 broadcasts about Germany, or 22 per cent; 340 foreign-language presentations, or 17 per cent; 300 history and civic broadcasts, or 15 per cent; 240 presentations in natural science, questions in economics and technical problems, or 12 per cent; and 200 broadcasts on geographical information, or 10 per cent.

According to age of listeners, these 2,000 broadcasts ranged from 2 per cent for seven-year olds to 56 per cent for fourteen-year olds. They decreased progressively to 25 per cent for the nineteen-year olds.

Dialogues with leading personages in political or economic life led all forms of broadcasts. A total of 400, or 20 per cent of the 2,000 broadcasts, were by this method. Instructive discourse ranked second, with about 360 offerings, or 18 per cent; and experiences of world travelers, with about 300 offerings, or 15 per cent, came third. Fourteen per cent, or 280 broadcasts, were offered by pupils in music and play groups. Scenes from literature constituted 7 per cent and solos

6 per cent, while recitations from poets constituted 10 per cent among other individual offerings.

More adults listened to the school radio in 1931 than ever before, and this is regarded as most salutary.

THE ORGANIZATION OF PUBLIC INSTRUCTION IN FOREIGN COUNTRIES

The International Bureau of Education, Geneva, Switzerland, has recently published a volume entitled *L'Organisation de l'instruction publique dans 53 pays*. The volume is the outcome of a request made by M. Herriot to the bureau when he was French Minister of Public Instruction. The data were collected in the first instance from official records and reports and, after being collated, were sent to the governments concerned for correction and for more complete details. Each state concerned was given a great deal of freedom in determining the amount of materials to be included in its report. As a result, the amount of information given by each country varies considerably.

The materials for each country are organized in four parts according to a set form. One part is devoted to the organization of instruction—kindergarten, primary, secondary, higher, and professional. This part also includes data on the training of teachers. The second and third parts are devoted to examinations and statistics, respectively. A fourth part contains a bibliography.

The volume will be especially helpful to anyone interested in arriving at an understanding of the structural organization of foreign school systems or in a comparative study of education in different parts of the world.

SHALL WE ELIMINATE THE COMPARATIVE MARKING SYSTEM FROM THE REPORT CARD?

J. T. WORLTON

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The necessity for a means of official communication between the home and the school has long been recognized in American education, and, as a consequence, the common practice in school systems is to use some form of report card as a means of conveying to parents and guardians information relative to the progress being made by pupils in schools. The difficulties encountered in the preparation of a report form which is thoroughly satisfactory to all concerned are so paramount and persistent that the problem is more or less a live issue in all progressive systems.

That the typical report card has serious limitations and defects no experienced teacher or school executive would deny. That some form of report is necessary in the interest of intelligent co-operation between the home and the school is equally apparent. The problem which is continuously in the foreground with the conscientious teacher and administrator is to prepare and furnish to parents such information as will ultimately result in improved educational stimulation and guidance for the child, both at home and at school. If this principle is used as a guide and criterion for the evaluation of report-card items, it is illuminating to examine some of the basic assumptions underlying the use of the report card as typically found in American public schools.

In a recent study¹ of 628 report cards now used in 515 city school systems, it is reported that 88.89 per cent of all the rating systems in use are designed to inform parents of the relative standing of the pupil in his class in comparison with other members of the class. Of these, 46.03 per cent use letter ratings (A, B, C, D, and E);

¹ Rowena Hansen, *Report Cards for Kindergarten and Elementary Grades*. United States Office of Education Leaflet No. 41 (1931).

24.60 per cent use words ("excellent," "good," "medium," "poor," and "failing"), 15.08 use numbers (100, 90, 80, etc.); and the remainder, 3.18 per cent, employ descriptive expressions ("above average," "average," "below average"). The following three significant assumptions are basic to this system. (1) The information conveyed by the report card is accurate and reliable. (2) The best scholastic index for a child is that which shows his relative rank in comparison with the ranks of other pupils of his class and grade. (3) It is to the educational advantage of the elementary-school child that he and his parents be informed periodically of his scholastic rank in comparison with the ranks of other children in his grade or class. These three assumptions do not, of course, include all which are fundamental to the use of the typical report card, but they are sufficient for the present purposes.

The limitations and the characteristic defects of the report card in the light of these assumptions are at once apparent. Even the pupils in the elementary schools give evidence by their comments and criticisms that they realize the existence of such defects. It is common knowledge among teachers that their marks do not have the accuracy which the report form implies. Lack of accuracy is common whether a five-point or a seven-point scale is used, whether the marks are given in letters or figures. It is equally apparent that the errors in marking are frequently so large that distinctly erroneous impressions are conveyed as to the scholarship of the pupils.

The second assumption does not take account of the factors of intelligence and effort except as they affect scholarship. It is probable that these factors are so inherently associated with scholarship as to require substantial modification of this assumption before it can be accepted as valid.

The third assumption, however, is the primary consideration of this article. Is it to the educational interests of the elementary-school child that he be informed regularly of his comparative ranking with other pupils? The answer to this question should be sought in childhood reactions which grow out of this practice and their effect on total personality development. It is obvious that the receipt of a report card at regular intervals during the school career of the child may have far-reaching effects on his outlook on life. We may well consider

the positive and negative influences on character of (1) marks which are consistently high, (2) marks which are consistently low or failing, (3) marks which represent excellence when the pupil knows he has not done his best, (4) marks which show failure when the pupil knows he has done his best, or (5) marks which the pupil believes to be unfair. In this connection the reader is reminded of some of the more fundamental character traits which the modern progressive school seeks to develop in children and is asked to examine the effects on these traits of the practice of sending home periodically the comparative ratings of children. It will readily be admitted that the child (1) should acquire confidence in himself and in his own ability to succeed, (2) should develop an attitude of good will and friendliness toward others, and (3) should set up as his goals the vital objectives of education rather than high marks or other symbols of achievement.

These three character traits of children, in common with other desirable traits, are materially influenced by the use of the report card. For example, the boy who finds his chief interest and ability in dealing with concrete things rather than with long division, parsing, or the cause of the changing seasons may take home regularly a report card sprinkled with E's and D's and an occasional C. These regular reminders of his failure notwithstanding his efforts to succeed can scarcely be expected to foster in him a feeling of confidence in himself. On the contrary, the chances are overwhelming that such a notice is the master stroke in a series of experiences which tend to develop in him an inferiority complex.

The brilliant child who assumes scholastic leadership without effort is also affected negatively, although perhaps unconsciously, by the comparative markings. A feeling of superiority or scorn is more or less a natural concomitant accompanying consciousness of superior ranking when the importance of such ranking is emphasized. Nor is the child of average ability or accomplishment free from the ill effects of this marking system. The constant emphasis given to marks tends to dignify in the child's mind the symbols of accomplishment (the marks) rather than accomplishment itself and thus to shift the child's objectives from the primary goals of education to marks, honors, or other substitutes for legitimate educational objectives. This emphasis causes the overly conscientious child to sacri-

fice his mental and physical health on the altar of personal or family pride in his effort to score above his competitors. Cheating, lying, erasing the teacher's marks and substituting higher ones, forging the signature of parents, "losing" the report card, and other harmful practices are sometimes resorted to with satisfaction by children of all types of ability as a means of escaping the punishment and humiliation which are apt to follow in the wake of low marks.

It appears certain that the relation between the teacher and the child and also the relation between the parent and the child are substantially improved in the majority of cases by the elimination of comparative markings on the report card. This improved personal relationship enables teachers and parents to exert more effective influence in stimulating and guiding the educational and personality development of the child. It fosters in the school and in the home a more wholesome and joyous atmosphere in which children can live and practice positive traits of character leading to higher scholarship and more desirable qualities of citizenship.

In an effort to provide against the negative features of the comparative marking system, an experimental form of report card has been in use in the elementary schools of Salt Lake City since September, 1930. The characteristic feature of this report form is the elimination of comparative marks. If in the judgment of the teacher the child is progressing in his studies and in the citizenship qualities listed as well as might reasonably be expected in consideration of his individual ability and opportunities, his card contains no entries except those of attendance and punctuality. A clean record is evidence that the pupil is doing thoroughly satisfactory work for him, although it may be far below the quality and the amount of the work which is done by his classmates. If, however, the teacher believes that the pupil could and should do better than he has been doing, she checks the subject or the character quality in which he is deficient, as a matter of information to parents and as an invitation for parental co-operation in meeting the situation. A plus sign is used the following period to indicate that improvement has been made or another check to show that the weakness still persists. Pages 2 and 3 of the report card, which show the features mentioned, are reproduced on page 181.

It will be observed that effort rather than accomplishment be-

comes the primary factor in determining the scholarship and citizenship record of the pupil. The child with low native ability has an equal chance with the highly endowed child to make a favorable showing on this report form. If he is industrious, he does not receive official notice of his relative inferiority in scholarship during his entire attendance in the elementary school. The bright child who does not live up to his possibilities is checked although he may be the first ranking pupil in the class. Comparative ranking of the pupils in scholarship and citizenship is eliminated as an index of success, and each child is judged in terms of his own ability, effort, and personality. It is true that a pupil might receive a thoroughly satisfactory report card and still be among the weakest pupils of the class scholastically if he is doing as well as his abilities give the teacher a right to expect. The report does not presume to show how much subject matter the pupil has mastered nor his standing in comparison with other pupils of his class. This information is obtained, however, and is shown in the detailed records of test results and teacher's estimates, which are kept both in the teacher's records and in the principal's files. Parents who are interested in this type of information (some of them are) are invited to call at the school and talk with the teacher and the principal. At these conferences all the information to be obtained from the school records and the teacher's estimates, together with that which the parent can supply, is made the basis for decisions respecting the child's educational welfare.

When the experimental report card was introduced, a letter was written by Superintendent G. N. Child and delivered by the pupils of the elementary schools to their parents. In this letter the purposes of the new report card were explained, and the co-operation of the parents was requested. A gratifying response was immediately forthcoming. Principals found that the number of parents and guardians visiting the schools increased immediately after the new report card was introduced.

This report card has been in use in the elementary schools of Salt Lake City for four semesters—a sufficient length of time, it would seem, to demonstrate its practical adaptation to the problems at hand. In order that the officials might ascertain its practical success, a questionnaire which listed a number of advantages claimed

Periods	1ST SEMESTER			2ND SEMESTER		
	1st	2nd	3rd	1st	2nd	3rd
School Days.....
Days Absent.....
Times Tardy.....
Reading.....
Writing.....
Spelling.....
Language.....
Social Studies.....
(Geog., Hist., Civ.)
Nature.....
Arithmetic.....
Health Education.....
Art.....
Music.....
.....
.....
.....

- 1 No mark in scholarship means that progress is satisfactory.
2. A mark like this (✓) means that improvement is desirable in the subject or trait checked.
- 3- A mark like this (+) signifies improvement during the current period.

Parents should confer with the principal or teacher if the child's report continues to show unsatisfactory results.

Periods	1ST SEMESTER			2ND SEMESTER		
	1st	2nd	3rd	1st	2nd	3rd
deportment.....
Application.....
Attitude toward school.....
Courtesy.....
Self-reliance.....
Neatness in—
1. Desks and books.....
2. Written work.....
3. Appearance.....
Fairness in—
1. Work.....
2. Play.....

Kindergarten children will receive marks in attendance only the first semester and in attendance and citizenship the second semester.

First-grade children will receive marks in attendance and citizenship the first twelve weeks and thereafter in attendance, citizenship, and scholarship.

PROMOTION RECORD

Date..... is promoted to the
Grade.....
Teacher.....
Principal.....

for the new report form was distributed among the teachers and the principals after the third semester. Replies were received from 513 teachers and 28 principals. No names were attached to the returns from teachers. The following excerpts taken from the questionnaire show the directions to teachers and the items on which they were asked to express opinions.

Following are a number of statements which purport to show the advantages to be obtained from the practice of using the check (✓), the plus sign (+), and other symbols of our new report card rather than the letters A, B, C, D, and E as a means of making an official report of the pupil's progress to parents.

It is desired that each person answering the questionnaire examine these claims carefully and express a personal evaluation of them by inserting the appropriate figure on the line following the statement. The figures will signify respectively meanings as given in the following code:

1. Complete disapproval.
2. Sometimes true though not often.
3. Sometimes true, sometimes not true. The two systems have equal advantages.
4. Generally true, exceptions are few.
5. Unquestionably true.

The names of teachers answering the questionnaire need not be indicated. The signature of the principal, however, is desired.

QUESTIONNAIRE

1. The new report card protects the sensitive feelings of the slow-learning child and thereby fosters an attitude of confidence rather than one of inferiority. _____

2. The child of superior ability who attains scholastic leadership with but little effort is less likely to assume an attitude of superiority and intolerance because he cannot advertise himself by showing to his associates superior marks. _____

3. By eliminating the use of letters the child is more readily led to adopt as his own goals the intrinsic objectives of the school rather than to seek primarily for marks or other symbols of achievement. _____

4. Jealousy, envy, and other antisocial traits may be more easily curbed with the elimination of comparative marking. _____

5. Since the elimination of comparative markings on the pupil's report card relieves the teacher of social pressure in a marked degree, the scholastic ratings which are entered into the permanent records of the school are more accurate and valid than formerly. _____

6. The elimination of comparative markings fosters the mental and physical health of the over-conscientious child irrespective of his ability by withholding the excessive stimulation or depression which the markings give such children. _____

7. The morale of the typical family life is improved by the new type of report card because it does not furnish the concrete information which often causes parents to make unreasonable demands upon children and which is a frequent cause of family misunderstanding._____

8. Parents are in general pleased with the new report card._____

9. The advantages of the new report card, in consideration of the school's program for the total personality development of the child, are outstanding and warrant its continuance._____

A compilation of the returns from the questionnaire are given in Table I. It is evidently the opinion of the teachers that the experi-

TABLE I

DISTRIBUTIONS OF REPLIES MADE BY 513 TEACHERS AND 28 PRINCIPALS TO EACH OF NINE QUESTIONNAIRE STATEMENTS CONCERNING EFFECTIVENESS OF EXPERIMENTAL REPORT CARD

STATEMENT	CODE NUMBER									
	1		2		3		4		5	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Teachers:										
1.....	3	0.6	21	4.1	29	5.7	160	31.2	299	58.4
2.....	3	0.6	30	5.9	33	6.4	156	30.5	290	56.6
3.....	11	2.2	43	8.5	89	17.6	194	38.4	168	33.3
4.....	2	0.4	28	5.5	25	4.9	141	27.6	315	61.6
5.....	73	14.4	59	11.7	85	16.8	112	22.1	177	35.0
6.....	7	1.4	36	7.1	37	7.2	138	27.0	293	57.3
7.....	9	1.8	44	8.7	52	10.3	168	33.3	232	45.9
8.....	25	5.2	60	12.4	84	17.4	253	52.6	60	12.4
9.....	16	3.2	9	1.8	32	6.3	74	14.7	372	74.0
Total	149	3.3	330	7.3	466	10.2	1,396	30.7	2,206	48.5
Principals:										
1.....	0	0.0	0	0.0	1	3.6	6	21.4	21	75.0
2.....	0	0.0	1	3.6	1	3.6	10	35.7	16	57.1
3.....	0	0.0	1	3.6	2	7.1	14	50.0	11	39.3
4.....	0	0.0	0	0.0	4	14.8	5	18.5	18	66.7
5.....	2	7.1	2	7.1	5	17.9	8	28.6	11	39.3
6.....	0	0.0	0	0.0	2	7.1	6	21.4	20	71.5
7.....	0	0.0	0	0.0	1	3.7	12	44.5	14	51.8
8.....	0	0.0	1	3.7	7	25.9	12	44.5	7	25.9
9.....	0	0.0	0	0.0	0	0.0	3	10.7	25	89.3
Total..	2	0.8	5	2.0	23	9.3	76	30.5	143	57.4

mental report card has many practical advantages over the traditional comparative system. The opinion of the principals is even more favorable to the new system than that of the teachers.

CONCLUSION

The tendency of progressive public schools during the past decade has been decidedly in the direction of an all-inclusive program which sponsors the total personality development of the individual pupil, including, in addition to the fundamental tool subjects, the desirable habits and attitudes which make for character and citizenship. This broader program of the schools should be reflected in the report card, which is the official method of communication between the home and the school. Unless reform in the report card is made, a countercurrent of marked influence may be affecting negatively the character traits of children. The comparative marking system was developed during a period in our educational history when the emphasis was primarily on "scholarship" in the limited field of the three R's. In its practical effects the influence of the old marking system runs counter to the most fundamental objectives of modern, progressive schools. It appears from studies made in this field that the typical report card now in use in American cities is still of the traditional formal type. It would seem that this problem should be given renewed experimental study by teachers and administrators. The experiment in Salt Lake City may be a step in the right direction.

TYPES OF ERRORS AND QUESTIONABLE HABITS OF WORK IN MULTIPLICATION

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PURPOSE

The purpose of this article is to report the results of a study determining the types, frequency, and probable causes of the errors and the questionable habits of work used by children in their responses to exercises involving the mechanical aspects of multiplication. The term "error" is used throughout the study to mean any method of work used by children in multiplication by which incorrect responses to the exercises are given. The term "questionable habit of work" is used to mean any questionable method of work which may produce the wrong response indirectly or which may be a time-consuming process. The method of the study involved an intensive analysis of the mental processes revealed by pupils' responses to the exercises of an inventory test and by observations made during an interview with each pupil whose methods of work could not be detected from the results obtained on the test.

PROCEDURE

The investigation deals with the responses of children in typical schools of five public-school systems in Michigan cities having populations of at least twenty-five thousand. The cases selected for diagnosis were limited to children who were able to use the basic multiplication combinations in abstract problem form. Their ability was determined by the Compass Diagnostic Tests in Arithmetic, Test III, Form A. In most of the schools children in the low-fourth to the high-sixth grade, inclusive, were tested. The testing program included 2,577 children. Of this number, only 2,110 were studied intensively as the papers for the other 467 pupils indicated achievement free from error and at best ten points above the norms for the grades under consideration. Children whose methods of work were studied

intensively may be divided into two groups: (1) the relatively small number of children whose methods of work were revealed from an analysis of the written responses and (2) those making low scores on the inventory test to whom it was necessary to give an interview to determine the mental processes involved in the incorrect or questionable responses.

Before the interviews were held, a tentative check list of errors and questionable habits was made as an aid in their classification. In the preparation of this list the most frequent errors and questionable habits appearing in the studies of Buswell and John,¹ Brueckner,² and Lazar³ were noted. The list was revised from time to time during the study. A complete inventory of errors and questionable habits of work was derived from the interviews.

Since the success of a diagnostic study depends primarily on the technique used in the interview, special care was given to this phase of the investigation. An effort was made to secure objective co-operation of the pupils, and emphasis was placed on the method of work rather than on the results obtained. Throughout the interviews the children were asked to solve aloud the exercises on the work sheet given them at the beginning of the interview. If a child showed any hesitancy in his work, he was asked how he had arrived at his answer. For example, in multiplying 327×29 , a child hesitating at the combination 9×7 was asked how he obtained the result. If the oral explanation was not clear to the experimenter, the child was requested to illustrate his method of work. Other similar number situations were presented in order to determine whether the habits of work observed were fixed habits.

EXPLANATION OF ERRORS AND HABITS

A number of the errors and the questionable habits of work listed in this study have been reported in previous diagnostic studies.

¹ G. T. Buswell, with the co-operation of Lenore John, *Diagnostic Studies in Arithmetic*, p. 133. Supplementary Educational Monographs, No. 30. Chicago. Department of Education, University of Chicago, 1926.

² Leo J. Brueckner, *Diagnostic and Remedial Teaching in Arithmetic*, pp. 110-60. Philadelphia: John C. Winston Co., 1930.

³ May Lazar, *Diagnostic and Remedial Work in Arithmetic Fundamentals*, pp. 25-55. New York: Bureau of Reference, Research, and Statistics, Board of Education, 1928.

Some of these errors and habits are similar in form to those of the present study but are named differently. For example, the use of lower combinations and addition to obtain higher combinations is similar to the use of the "split multiplier" reported by Buswell and John¹ in that a child desiring the answer to the combination 7×9 said, " $4 \times 9 + 3 \times 9$." This method, however, represents the most advanced stage in using lower combinations and addition to obtain the higher combinations. Many children used some such cumbersome method as $3 \times 18 + 9$ to obtain answers to the combination 7×9 . This process was carried on mentally by some children and written as side work by others.

Most of the errors and habits are obvious from the names given

- | | |
|-----|----------------------------------------------------------|
| 9 | them. A few, however, need explanation. For ex- |
| 1 8 | ample, in Habit 13 listed in Table I, using a special |
| 2 7 | device to obtain the combinations for the table of |
| 3 6 | nine's, a child wrote the column 9, 8, 7, etc., then |
| 4 5 | dropped one place and at the left wrote 1, 2, 3, etc., |
| 5 4 | as shown here. If he needed 6×9 , he began at 9 |
| 6 3 | and counted down 6 places. A similar case has been |
| 7 2 | reported by Evans. ² |

- | | |
|-----|-----------------------------------------------------|
| 8 1 | In Habit 22 shown in Table II, forming a mental |
| 9 0 | image in adding the combination and carried number, |

the children visualized the problem $\begin{array}{r} 45 \\ +8 \\ \hline \end{array}$ and added $8 + 5 = 13$ and $4 + 1 = 5$.

In multiplying backwards, Habit 41 shown in Table III, the children reversed the process as indicated in the following example.

64	$0 \times 6 = 6$
$\times 30$	$0 \times 4 = 4$
<hr/>	
64	$3 \times 6 = 18$
120	$3 \times 4 = 12 + 8 = 20$
<hr/>	
184	

¹ G. T. Buswell, with the co-operation of Lenore John, *op. cit.*, p. 178.

² Roy Evans, "Remedial Cases in Arithmetic Case 2," *Peabody Journal of Education*, VII (January, 1930), 213.

RESULTS

A careful analysis of the mental processes of 2,110 children in their responses to exercises in multiplication revealed sixty-eight errors and questionable habits of work. Of this number, approximately 58 per cent were errors, and the remaining 42 per cent were questionable habits of work. Space does not permit the presentation of the com-

TABLE I
ERRORS AND HABITS IN OBTAINING COMBINATIONS IN MULTIPLICATION
RECORDED FOR 2,577 PUPILS IN GRADES IV-VI

ERROR OR HABIT	PERCENTAGE OF PUPILS IN EACH GRADE					
	Low-fourth (327)*	High-fourth (480)	Low-fifth (453)	High-fifth (473)	Low-sixth (479)	High-sixth (365)
1. Error in combinations	29 1	17.5	33.6	25.2	30 5	21 4
2. Higher combinations unknown	13 2	4.6	17.4	12.3	10 6	8 2
3. Repeats tables from known combination	6 7	5 2	6 4	6.8	6.1	4 7
4. Lower combinations unknown	4 3	0 6	6.0	1.5	1 7	0.5
5. Repeats tables from first	3.7	1 9	3 1	0 8	2 9	0.8
6. Wrong combination fixed	3.4	1 9	3 1	2.5	5 6	3 0
7. Counts from known combination	2.5	2 3	2.9	1.7	5.0	2 2
8. Uses lower combination and addition . .	2 5	1.9	8 4	11.8	12.3	11 5
9. Sets down columns and adds	1 5	0.6	3 5	2.5	3 1	2 7
10. Depends on tables	0 6	0 4	0 7	0.2	0.4	0.0
11. Makes marks and adds	0 3	0.2	0.9	0.6	0 2	0.5
12. Counts on fingers from known combination	0.3	1.5	1.1	2.1	2 9	3.0
13. Uses special device for nine's	0 0	0 2	0.0	0.0	0 0	0 0
14. Makes dots in adding columns . . .	0 0	0.0	0 4	0.4	0 0	0 5
15. Subtracts from known combination . .	0.0	0.0	0 2	0 6	1 7	1.1
16. Multiplication by addition	0 0	0.0	0 2	0.2	0 0	0 0

* The numbers in parentheses represent the total number of pupils tested in the grade.

plete data. The series of tables given illustrate a complete inventory of the errors and questionable habits distributed according to grade levels

The errors and habits used by children in obtaining the multiplication combinations are shown in Table I. From the standpoint of frequency, errors in combinations (Error 1), lack of knowledge of the higher combinations (Error 2), and use of lower combinations and addition (Habit 8) appear to be the most significant, comprising approximately 50 per cent of the total group. The remaining errors and questionable habits are distributed among thirteen errors or

habits of relatively low frequency, each indicating significance in the case of only a few children.

The influence of grade level is apparent in only a few of the errors or habits listed in Table I. High frequency of errors in combinations (Error 1) is conspicuous throughout in spite of the slight decrease at the higher grade levels. The error is made in the low-fourth grade

TABLE II
ERRORS AND HABITS IN CARRYING IN MULTIPLICATION RECORDED
FOR 2,577 PUPILS IN GRADES IV-VI

ERROR OR HABIT	PERCENTAGE OF PUPILS IN EACH GRADE					
	Low-fourth (327)*	High-fourth (180)	Low-fifth (453)	High-fifth (473)	Low-sixth (479)	High-sixth (365)
17. Sets down carried number	17.1	15.8	24.7	30.0	30.3	35.1
18. Counts in getting carried number	15.6	8.5	9.1	9.5	9.4	8.5
19. Error in carrying.	8.9	6.9	11.5	9.3	12.9	6.0
20. Fails to carry.	8.0	4.0	4.0	2.7	3.3	3.0
21. Carries wrong number.	7.3	5.8	5.7	4.0	6.1	4.4
22. Forms mental image of combinations	2.8	0.8	1.8	4.0	5.8	4.7
23. Counts on fingers to get number carried	2.1	3.1	2.4	2.1	2.7	2.2
24. Puts number to be carried in partial product.	0.6	1.0	1.3	0.2	0.8	0.5
25. Reverses number to be set down and carried.	0.6	1.0	1.8	0.8	0.6	0.3
26. Sets down combination and carried number and adds.	0.3	0.4	0.7	0.6	0.8	1.4
27. Carries smaller number.	0.3	0.0	0.0	0.2	0.2	1.1
28. Secures right combination but sets down wrong number.	0.0	1.2	1.1	0.4	0.4	0.8
29. Builds units' digit to tens'	0.0	0.2	2.0	1.9	2.1	3.0
30. Makes dots in adding carried number.	0.0	0.0	0.0	0.2	0.6	0.5

* The numbers in parentheses represent the total number of pupils tested in the grade.

by 29.1 per cent of the pupils and in the high-sixth grade by 21.4 per cent. The percentage of pupils exhibiting lack of knowledge of the higher combinations (Error 2) is 13.2 in the low-fourth grade, decreases to 4.6 in the high-fourth grade, increases to 17.4 in the low-fifth grade, but shows a noticeable decrease in the remaining grades. Use of lower combinations and addition (Habit 8) shows an increase in percentages from 2.5 in the low-fourth grade to 11.5 in the high-sixth grade. The noticeable decrease in the percentages of pupils exhibiting these errors and habits in the high-fourth grade and the

increase in the low-fifth grade are probably caused by teaching factors. In most systems the teaching of arithmetic in the low-fourth grade is centered on the mastery of the multiplication process. This mastery is somewhat lost in the low-fifth grade when the process of division is stressed.

Carrying in multiplication, presented in Table II, provides ample opportunity for the formation of questionable habits, involving, as

TABLE III
IRREGULAR ERRORS AND HABITS IN MULTIPLICATION RECORDED
FOR 2,577 PUPILS IN GRADES IV-VI

ERROR OR HABIT	PERCENTAGE OF PUPILS IN EACH GRADE					
	Low-fourth (327)*	High-fourth (480)	Low-fifth (453)	High-fifth (473)	Low-sixth (479)	High-sixth (365)
31. Multiplies digits in multiplicand by corresponding digits in multiplier. . .	13.1	2.1	3.3	3.2	1.7	1.1
32. Uses multiplicand as multiplier. . . .	4.3	3.3	6.6	5.9	5.4	5.2
33. Does not multiply all digits.	4.0	2.9	4.6	4.2	5.4	3.3
34. Can multiply by only one digit.	2.8	1.0	1.5	0.0	0.0	0.0
35. Multiplies the carried number.	1.8	0.8	0.7	0.2	1.5	0.0
36. Does not multiply by all digits.	0.6	2.3	4.9	1.9	1.3	5.2
37. Multiplies by same digit twice.	0.6	1.0	0.9	1.1	1.0	0.3
38. Can multiply by only two digits.	0.6	1.2	0.7	2.5	2.1	0.5
39. Multiplies by carried number.	0.0	0.2	0.0	0.4	0.2	0.0
40. In a three-digit multiplier, multiplies by two digits and adds, then by third digit and adds.	0.0	0.2	0.7	0.2	0.0	0.0
41. Multiplies backwards.	0.0	0.0	0.2	0.0	0.8	0.0

* The numbers in parentheses represent the total number of pupils tested in the grade.

it does, the manipulation of numbers which do not appear on the written page. The most generally practiced of the time-consuming habits of this group are the setting-down of the carried number (Habit 17) and counting to obtain the carried number (Habit 18). Of the error-producing habits, errors in carrying (Error 19), failure to carry (Error 20), and carrying the wrong number (Error 21) show the highest frequencies. A decided increase at the higher grade levels occurs in the setting-down of the carried number (Habit 17), the percentage ranging from 17.1 in the low-fourth grade to 35.1 in the high-sixth grade. On the other hand, counting to obtain the carried number (Habit 18) displays the highest frequency in the lowest grade. The percentages of pupils making errors in carrying at the

various grade levels tend to be somewhat erratic. The fluctuations in percentages in the high-fourth, low-fifth, and low-sixth grades cannot be explained from the data available. The remaining errors and questionable habits of this group are of low frequency and display no marked change at any grade level.

The irregular errors and questionable habits used in multiplication, other than those used in obtaining the basic multiplication

TABLE IV
ERRORS AND HABITS IN THE MISUSE OF ZERO IN MULTIPLICATION
RECORDED FOR 2,577 PUPILS IN GRADES IV-VI

ERROR OR HABIT	PERCENTAGE OF PUPILS IN EACH GRADE					
	Low-fourth (327)*	High-fourth (480)	Low-fifth (453)	High-fifth (473)	Low-sixth (479)	High-sixth (365)
42. Sets down rows of zeros.	25.4	31.0	32.0	36.4	38.8	37.5
43. Gives zero value of one in multiplier	15.6	12.7	21.4	17.5	17.1	10.4
44. Error in placing partial product when units' digit in multiplier is zero.	4.6	11.7	15.9	15.4	17.7	24.1
45. Gives zero value of one in multiplier						
46. Error in carrying into zero.	2.1	1.7	3.8	4.9	3.1	2.2
47. Placing partial product when units' digit is zero in product above.	1.2	0.0	1.3	1.5	0.8	0.3
48. Omits units' zero in multiplier.	0.6	0.6	0.4	0.0	0.2	0.0
	0.3	1.7	4.0	4.7	3.5	7.1

* The numbers in parentheses represent the total number of pupils tested in the grade

facts, are presented in Table III. Relatively low percentages are displayed at all grade levels in this table except multiplying the digits in the multiplicand by corresponding digits of the multiplier (Habit 31), which shows a comparatively high frequency in the low-fourth grade. The high frequency in this grade is probably a result of the fact that many of the children could multiply by only one digit, even though the process involving multipliers of two or more digits had been taught in the schoolrooms from which these cases were taken.

The errors and habits involving the misuse of the zero are shown in Table IV. Setting down rows of zeros (Habit 42) is practiced by approximately one-third of the pupils tested. Of the error-forming habits, giving zero the value of one in the multiplier (Error 43) displays the highest frequency. At all grade levels the frequency of

this habit is higher than the frequency of giving zero the value of one in the multiplicand (Error 45). The practice of writing rows of zeros tends to increase with the grade level. The percentage of pupils exhibiting this habit is 25.4 in the low-fourth grade and increases to 37.5 in the high-sixth grade. Error in placing the partial product when the units' digit of the multiplier is zero (Error 44) also presents a marked tendency to increase in frequency in the higher grades.

TABLE V
ERRORS AND HABITS IN PLACING PARTIAL PRODUCTS RECORDED
FOR 2,577 PUPILS IN GRADES IV-VI

ERROR OR HABIT	PERCENTAGE OF PUPILS IN EACH GRADE					
	Low-fourth (327)*	High-fourth (480)	Low-fifth (453)	High-fifth (473)	Low-sixth (479)	High-sixth (365)
49. Error in placing partial product. . . .	4.6	7.1	7.9	5.1	3.5	4.1
50. Keeps columns straight.	0.3	1.7	0.7	1.1	0.2	0.0
51. Omits left digit in partial product. . .	0.0	0.4	0.4	0.4	0.0	0.5
52. Double indentation of partial products.	0.0	0.0	0.4	0.2	0.0	0.0
53. Indents partial product to right. . . .	0.0	0.0	0.2	0.0	0.2	0.0
54. Writes two partial products with one-digit multiplier.	0.0	0.0	0.2	0.2	1.3	0.0

*The numbers in parentheses represent the total number of pupils tested in the grade

The percentage of children exhibiting this habit rises from 4.6 in the low-fourth grade to 24.1 in the high-sixth grade. The remaining errors of this group occur in low frequencies through all the grades.

The frequency of occurrence of the errors resulting from the incorrect placement of the partial products is given in Table V. These errors are of relatively low frequency at all grade levels. Error in placing the partial product (Error 49) reaches its highest point in the low-fifth grade and decreases in the higher grades.

Table VI reveals the difficulties experienced by children in addition of the partial products. These errors and habits are not particularly frequent in any grade. Setting down the carried number (Habit 61) increases from 0.3 per cent in the low-fourth grade to 12.9 per cent in the high-sixth grade. Error in addition combinations (Error 55) displays a tendency to increase through the low-fifth grade and to decrease throughout the following grades. The

percentages of children exhibiting the remaining habits of this group are relatively equal and show no marked changes at the different grade levels.

TABLE VI
ERRORS AND HABITS IN ADDING PARTIAL PRODUCTS RECORDED
FOR 2,577 PUPILS IN GRADES IV-VI

ERROR OR HABIT	PERCENTAGE OF PUPILS IN EACH GRADE					
	Low-fourth (327)*	High-fourth (480)	Low-fifth (453)	High-fifth (473)	Low-sixth (479)	High-sixth (365)
55. Error in addition combinations . . .	3 4	3 7	6 6	6 3	3 1	1 9
56. Counts to get combinations . . .	0 9	1 7	1 8	1 9	1 9	0 8
57. Fails to add partial products . . .	0 6	0 2	0 0	0 2	0 6	0 3
58. Error in carrying	0 6	1 0	1 5	1 3	1 3	1 1
59. Omits digit in adding	0 6	0 4	0 2	0 6	0 2	0 0
60. Groups numbers to add	0 6	0 8	1 8	2 5	2 3	0 8
61. Sets down carried number	0 3	3 3	7 5	6 1	7 1	12 9
62. Counts on fingers to get combinations	0 0	0 4	1 1	1 7	1 7	0 5
63. Makes dots in adding partial products	0 0	0 2	1 3	2 9	3 5	3 3
64. Fails to carry	0 0	0 0	0 2	0 2	0 0	0 0
65. Adds diagonally	0 0	0 0	0 0	0 2	0 0	0 0

* The numbers in parentheses represent the total number of pupils tested in the grade.

TABLE VII
MISCELLANEOUS ERRORS AND HABITS IN MULTIPLICATION
RECORDED FOR 2,577 PUPILS IN GRADES IV-VI

ERROR OR HABIT	PERCENTAGE OF PUPILS IN EACH GRADE					
	Low-fourth (327)*	High-fourth (480)	Low-fifth (453)	High-fifth (473)	Low-sixth (479)	High-sixth (365)
66. Confuses processes of multiplication and addition	3 1	1 7	1 5	0 8	0 4	0 0
67. Superfluous use of language	3 1	1 0	1 3	0 0	1 3	0 0
68. Confuses processes of multiplication and subtraction	0 3	0 2	0 7	0 2	0 0	0 0

* The numbers in parentheses represent the total number of pupils tested in the grade.

The habits not readily classifiable have been summarized in Table VII as miscellaneous habits. Although they do not occur frequently, they have significance in the study of individual children.

The tables presented indicate the variation of the errors and questionable habits when distributed according to grades. Similar dis-

tributions were made according to grades in each of the five cities, according to intelligence scores, and according to achievement scores made on the Compass test. The distributions indicated clearly that the types, frequency, and probable causes of the errors and questionable habits of work are significantly related to certain factors involving learning.

CONCLUSIONS

The study reveals five facts of significance to teachers: (1) Relatively few type errors and questionable habits of work could be analyzed with certainty from the written responses. (2) All errors and questionable habits, regardless of frequency, have significance for the individual child. (3) The errors and questionable habits persist throughout the higher grades. (4) The tendency of children is to evolve questionable processes of solution when skills are employed before the basic concepts are formed. (5) The percentages of errors and questionable habits vary significantly at the different levels of intelligence and achievement in each grade.

The variations in the occurrence of the errors and habits at all levels of intelligence and achievement throughout the grades indicate the need for the use of a continuous diagnostic program by the classroom teacher.

THE INTELLIGENCE OF TEACHERS

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During a recent discussion of the findings of the Wisconsin Colleges Co-operative Testing Program, it was pointed out that those high-school Seniors who had disclosed their intention of entering the Wisconsin State Teachers Colleges had a median intelligence percentile of 52 and that they might be described as the "run of the mine." Was this an isolated and erratic finding? A little research revealed that it was not; such findings are the rule.

Do such findings have any parallel in the public estimate of teachers? There is some evidence that such is the case. The old-time, good-natured gibe, "He tried everything else and failed and then took up school teaching," has a sociological as well as an economic basis. Whitney states that "to a certain degree popular opinion has placed the elementary teacher in our public-school systems on a rather low level of intelligence" (17: 3)¹ and that a number of investigations since the World War have seemed to support that opinion. Bode (2) says that the ideal of the average American citizen is the man of affairs; Americans cannot understand why a normal, able-bodied man should wish to spend his life in teaching. "A population that bestows the title of 'professor' on corn-doctors and parachute performers . . . is not greatly burdened with reverence for scholarship" (2: 228).

Although it is worth while and interesting to consider the popular view, the writer is not one of those who believe unreservedly that "a million people cannot be wrong." Are there any outstanding students of the science of education who hold, even by implication, a view similar to that reflected by popular opinion? Wood seems to be very positive that there is a one-to-one correlation between intelligence scores and college success. He writes:

¹ The numbers in parentheses refer to the bibliography appearing at the end of the article. In case of quotations page references are also given

In whatever way we interpret these tables, we see that high scores on the intelligence test mean high achievement in college, and vice versa; that low scores in one mean low scores in the other [19: 69].

We have shown thus far that the intelligence examination predicts college success very nearly as well as college success . . . predicts itself from one semester to another or from one year to another [19: 139].

If Wood's statement of the value of the intelligence quotient as a predictive measure of college success is correct, then the fact that the medians of their intelligence scores usually class the students entering teachers' colleges as the run of the mine would imply that the schools are being manned by persons who at best can accomplish only mediocre success in college. The social implications of such a condition are various. Jennings (7), a leading biologist, assures us that the course of biological evolution is so slow, even if directed by the science of eugenics, that it can furnish little aid in the problem of keeping pace with the changing needs of society.

Certainly, therefore, every other remedy that has possibilities should be tried while we are waiting for eugenics to do its perfect work. And it is probable that changes in environment—changes in treatment of infancy, in education, in tradition . . . can do much more for the ills of society than can be done through direct attempts to change the genetic constitution of the population [7: 246].

The school, then, is the agency to which we must look, and the teacher, we may assume, is the most important factor in the school. The implications are obvious. Those who select the entrants to the teachers' colleges will be interested in setting up some machinery which will assure a better selected group of students than these schools have secured in the past. The great body of teachers at work in the field will, both for reasons of personal pride and for the effect it may have on the problems of employment and salaries, wish to see the raw material of the teacher-training institutions more skilfully appraised and more carefully selected than formerly.

Some evidence as to the "median" intelligence of those persons wishing to enter teachers' colleges or those already enrolled in the courses is available. In the Wisconsin Colleges Co-operative Testing Program (18) in 1929, the intelligence scores and occupational choices of more than sixteen thousand high-school pupils were secured. The method of comparison in this study was by "psychological percentiles" rather than by point scores or intelligence quotients.

Among twenty-two occupational choices journalism ranked first with respect to the intelligence scores of the pupils choosing that occupation. The quartile points of those choosing journalism were as follows: first quartile, 56; median, 81; and third quartile, 94. Teaching ranked tenth with the following scores: first quartile, 28; median, 52; and third quartile, 76. "Beauticians" were last with the following scores: first quartile, 13; median, 30; and third quartile, 56. These comparisons give a sampling of the abilities of those declaring their intentions of attending college for the purpose of preparing for various professions.

TABLE I
SELECTIVE INFLUENCE OF DIFFERENT INSTITUTIONS SHOWN
BY MEDIAN PERCENTILE RANKS OF INTELLIGENCE
SCORES SECURED IN WISCONSIN COLLEGES CO-OPERATIVE
TESTING PROGRAM

INSTITUTION	MEDIAN PERCENTILE RANK	
	Boys	Girls
University of Wisconsin.	75	76
Wisconsin colleges.	64	76
Wisconsin State Teachers Colleges	48	53
Out-of-state colleges.	73	71

What of those who actually entered college in the following semester? Was the difference in intelligence percentile rank still apparent? The figures in Table I clearly indicate the apparent intellectual inferiority of the raw material of the teachers' colleges. Wood (19: 41) offers a table of means and sigmas of the scores made on the Thorndike Intelligence Examination for College Entrance by prospective entrants or students in nine widely scattered institutions of higher learning in the United States and a preparatory school in Canada. The medians range from 52 to 79, and the Freshmen women at the normal school in Trenton, New Jersey (the one teachers' college in the list), rank eighth among the nine higher schools. It may seem startling that the academic failures during the years 1919-22 at Columbia College had a median intelligence score of 69, while the median of the New Jersey prospective teachers was only 64.

Odell concluded from an investigation of college students that "those [Freshmen] attending the University of Illinois and other large universities and technical schools possess on the whole mental ability well above the average, whereas those entering teachers' colleges and professional, art, and music schools are decidedly below the average . . . [of] the whole group" (9: 45).

Book (3) made a state-wide survey of the high-school Seniors in Indiana. In his chapter entitled "Intelligence and Vocational Choice" he presents graphs showing the scores made by the middle 50 per cent of the boys and girls electing various vocations, and he says:

It may readily be seen (from Figure 29) that the group of boys selecting science, the ministry, and journalism ranks ahead of all other groups. . . . Law, engineering, and teaching occupy a position about midway between these other occupations. . . .

The girls selecting journalism, law, and social service rank higher than any other occupational group. The groups selecting clerical work, nursing, and the professions of music and art rank lowest on the intelligence tests; the groups selecting medicine, teaching, and home-making occupy positions about midway between" [3: 124-25].

Odell (10) in the first section of his report on the intelligence of high-school Seniors presents tables showing the relations between vocational choices and intelligence-score medians. Among fifteen occupations the intelligence scores of those choosing teaching gave that profession a rank of 13.5 in the case of the boys and 10.5 in the case of the girls.

Further illustrations might be included, but enough have been given to show the general tendency in the studies of the relation of intelligence to vocational choice. What interpretation should be made of the data presented showing that the raw material in teachers' colleges is only the "run of the mine" so far as intelligence is concerned? Shall we agree with Wood (19) that these students are foredoomed to mediocre performance in college—that there is a one-to-one correspondence between the intelligence scores and achievement in college? Let us look farther.

In the first place, what is the real meaning of "run of the mine" or "median" intelligence scores or ratings? Median intelligence is

by no means low intelligence, and the writer has carefully refrained from employing the word "low." "The median," it should not be forgotten, "is defined as the midpoint of the series, that is, as the point above which and below which are 50 per cent of the measures" (6: 11). "Run of the mine" may be interpreted to have somewhat the same significance. Again, the fact or principle of overlapping must not be overlooked. Even though in the Wisconsin study (18) the 3,687 high-school Seniors who chose teaching had a median of 52 as compared with a median of 81 for the 283 "journalists," there

TABLE II
COMPARISON OF SCORES ON ARMY ALPHA TEST MADE BY NORMAL-SCHOOL GRADUATES, ARMY CAPTAINS, AND THE WHITE SOLDIERS DRAFTED IN THE WORLD WAR*

Score	Percentage of Normal-School Graduates	Percentage of Army Captains	Percentage of White Draft
A.	47.4	53.4	4.1
B.	38.2	29.0	8.0
C+.	14.2	14.4	15.2
C.	0.2	3.8	25.0
C-.	0.0	0.4	23.8

* After Frederick Lamson Whitney (17: 8)

was without doubt a large amount of overlapping among the scores in the upper levels.

There is, moreover, some evidence in the field to show that normal-school students are not unintelligent. Table II gives a comparison presented by Whitney (17) of the scores made by normal-school or teachers'-college graduates on the Army Alpha Test and the scores made by persons in different occupations represented in the army. The similarity between the standing of the normal-school graduates and that of the army captains should be noted. It is interesting to find that only 0.2 per cent of the "teachers" fell below C plus. Whitney writes:

About half of this group of prospective elementary-school teachers are found on a level of intelligence equivalent to that of army engineers, another 40 per cent may be compared with physicians and dentists, while the remainder, the smallest part, have literal ratings similar to those of bookkeepers, clerks, and skilled workmen [17: 8].

When we are able to survey intelligence with more accuracy, we shall perhaps discover that the intelligence levels now found among persons making different vocational choices will have to be revised.

Other evidence of superior intelligence among students of teachers' colleges is contained in a letter from Odell (11) reporting findings made by Seiler in the registrar's office at the University of Illinois. Seiler studied the records of Juniors and Seniors in the College of Education during the period 1925-29.

He found that the point average of the men who had had their first two years' work in normal school [teachers' colleges] was 3.85, whereas that of the men who had had their first two years' work here [in the University] was 3.55, for the women, the corresponding averages were 3.81 and 3.70; for other transfer students than those from normal schools, the figures were not so far from those of students who had attended here and were below those for the normal-school transfers [11].

In fairness to Seiler and Odell it should be said that it is perfectly obvious to them that the students transferring from normal schools to a university are a selected group—just how highly selected no one knows. However, such data show conclusively that not all the raw material of the teachers' colleges is found on the level of mediocrity. Reitz, whose studies were concerned with teachers in service, feels confident that teachers are surpassed in intelligence by persons in only two other occupations.

Only 3.2 per cent of the 31,967 men of the "Principal Sample" of the white draft of the Army Study, representing the United States at large, would have surpassed the mean intelligence of the teachers. . . .

While Fryer's Occupational Intelligence Standards give teachers fifth place among ninety-six other occupations with respect to intelligence, in the light of the present results, teachers should have third place, being surpassed only by engineers and clergymen [14: 174].

At the risk of being accused of a priori reasoning, the writer would like to offer in evidence the attitude toward teachers' colleges assumed by the North Central Association of Colleges and Secondary Schools. There was a time, only a few decades ago, when such a thing as a four-year course leading to a baccalaureate degree was unheard of in teachers' colleges or normal schools. For a considerable time after the pioneering members of this group began to extend their courses to four years and to offer baccalaureate degrees, the majority of the

larger universities looked on these degrees with suspicion. Persons holding degrees from teachers' colleges were subjected to cuts and conditions when they attempted to register for post-graduate study. That condition is being rapidly changed. At present a large number of state teachers' colleges are rated by the North Central Association in Class B, a rating which implies only light conditions upon enrolment for graduate study. Another large group is rated in Class A, the highest rank, and the students of the institutions so listed may enter any of the member universities and many others with no conditions whatever. This fact indicates that the examining committees of the North Central Association consider the student raw material of the teachers' colleges satisfactory.

So far no evidence which even suggests a doubt of the validity of intelligence scores as an index of success in college has been offered. Casual observers have always been able to name individuals who seemed brilliant but made poor college records, and vice versa. Almost every investigator, since Wood (19) issued the results of his well-known study claiming a one-to-one correspondence between intelligence and college success, has come to the conclusion that the intelligence score is *not* the best single index of probable college success if, indeed, the use of any single index for prediction in this field can be considered good technique.

Persistence, as evidenced by the number of quarters or semesters a student remains in college, is an essential trait. A good student is likely to persevere until graduation. Nevertheless, Edgerton and Toops in their study at Ohio State University found a low correlation between intelligence-test scores and persistence in college. "The intelligence test percentile correlated on the average .19 with persistence" (5: 134). Persistence showed only a slightly higher correlation (.23) with the estimate made by entrance boards of the high-school record. Odell (13), however, found data which seemed to indicate that there is considerable relation between intelligence percentiles and persistence in college.

As has already been stated, the intelligence score is no longer considered the best single index of college success. It has been superseded by high-school averages. Thus Brooks says:

The number of units offered for entrance does not seem to have much value in forecasting academic success in college (4: 575).

High-school marks have much more value. While their predictive value varies greatly from one college to another (the correlations ranging from .26 to .77) and from one year to another in the same institution, yet they are at present the best single basis of admission to colleges of arts and sciences which has thus far been extensively investigated [4: 574].

Odell makes essentially the same statement: "There is no question but that with a few exceptions much better predictions of probable Freshman marks could be based upon the high-school averages than upon the test [intelligence] scores obtained in this study" (12: 31). In another study Odell found a correlation of .36 between high-school averages and Freshman averages and a correlation of only .19 between intelligence quotients and Freshman averages (9: 42). The day of the use of the intelligence score as a single predictive index of college success is about over. Indeed, a single index of any kind is no longer considered sufficient for the prediction of success. Brooks states that "a combination of two or more bases of admission is likely to be better than any one basis alone" (4: 581).

Nor has the intelligence score been found to be the best single index for predicting the success of the graduate of the teachers' college after he enters teaching. Whitney (17), Somers (15), and Ullman (16) found that student teaching has a higher correlation with teaching success than any other single factor. The correlations found by each of these investigators between intelligence scores and teaching success and between student teaching and teaching success are as follows: Whitney, .025 and .238; Somers, .425 and .70; Ullman, .15 and .36. These three investigators used a combination of factors for prediction. Bagley (1) made a survey of the rural teachers in the state of New York. He included more than fifty items in his scheme of investigation but made no use of the intelligence score.

Enough data have been presented to justify some generalizations with respect to the intelligence of teachers. The data apparently indicate that, while the medians of the intelligence scores of persons entering the Freshman classes of teachers' colleges usually classify these entrants as the run of the mine, nevertheless, because of the principle of overlapping in the distribution, a large number of these students will be found in the higher intelligence levels. In this connection a statement from Kirkpatrick's Massachusetts Normal

School Survey may be cited: "Colleges have and keep more brilliant students, yet between 80 and 90 per cent of all students of colleges are of the same grade of intelligence as are found in the Massachusetts normal schools" (8: 57). The data also indicate that the intelligence score alone is no longer considered the best index of college success and that the intelligence score is not now considered the best single index of teaching success. As a corollary to these conclusions it might be added that the use of any single index for prediction is no longer considered the best technique.

Teachers, therefore, have no reason to be ashamed of the intelligence level of the profession even if intelligence were the best predictive factor of success in teaching. The writer is heartily in favor of progress and improvement in all lines of social endeavor, but it is his belief that improvement in the character of the raw material received by the teachers' colleges will come through improvements in the curriculums and teaching methods in the elementary and secondary schools and through the selection of entrants on the basis of a multiple correlation of numerous traits rather than on the basis of the single factor of intelligence score.

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CHILDREN'S INTERESTS

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The investigation reported in this article was made in an effort to assist in solving the problem of securing and holding children's interest. Information revealing children's likes and dislikes and the intensity of these likes and dislikes seemed pertinent to the solution of this problem. It was assumed that, by giving children an opportunity to make discriminating choices, it would be possible to determine what some of their likes and dislikes are and in a limited degree to estimate the intensity of those likes and dislikes. With regard to the validity of testing likes and dislikes, Herring says:

It is assumed that children's choices between paired stimuli are a better criterion than the judgments of adults who observe the behavior of liking and disliking. . . . Subjective states of affection are not easy of approach by direct measurement; and in the case of indirect measurement of them it is likely that choices would be the best criterion.¹

The secondary problems growing out of the primary problem of discovering children's interests were: (1) to determine the ranks of various occupations on the basis of the children's choices, (2) to determine whether the father's occupation had any influence on the child's vocational choice, (3) to determine whether grade in school had any bearing on likes and dislikes, (4) to determine in so far as possible the intensity of their likes and dislikes by having children make choices from lists of activities, (5) to determine whether sex had any bearing on likes and dislikes.

This investigation was made during the school year 1930-31. The information was secured by means of a test given to the children in Grades IV-VIII, inclusive, in eight Arizona communities. The test items were divided into five large classes, which were planned to cover, as nearly as possible and as space would permit,

¹ John P. Herring, "The Measurement of Liking and Disliking," *Journal of Educational Psychology*, XXI (March, 1930), 169.

all the occupational choices, pastimes, home activities, school subjects, and school and community activities familiar to children in the grades studied. Five columns with the following headings gave opportunity for the children to express degrees of liking and disliking: "Like very much" was thought of as having a strong taste or appetite for the thing mentioned; "Like slightly," as having some taste for the thing; "Indifferent," as not caring for it or being unconcerned about it; "Dislike slightly," as having a slight distaste for it; "Dislike very much," as having a strong feeling of repugnance or aversion to it (hatred or fixed dislike). These columns were not used in the part of the test dealing with occupational choices, as merely the ranks of the choices were desired.

The following factors were taken into consideration in comparing children's likes and dislikes: (1) chronological age, (2) father's occupation, (3) present vocational inclinations, (4) sex, (5) pastimes (how a child likes or dislikes to use his leisure time), (6) home activities, (7) school subjects taught in the communities where this test was given, and (8) community and school activities.

The test was given in communities in which the occupations, opportunities, and cultural interests differed widely. It was hoped that the choices of the children would thus reflect no specific environmental background and would be more representative of all children. The 1,087 children tested ranged in age from eight to seventeen years in Grades IV-VIII, inclusive. Of this number 537 were girls, and 550 were boys.

Occupational choices.—The occupational choices of the boys and girls were ranked according to first, second, and third choices. Table I shows the ranks of all the first, second, and third choices of the fifteen occupations chosen most often by the boys and of the fourteen occupations chosen most often by the girls, as well as a ranking of the dislikes in these same occupations. The first seven occupational choices made by the boys show that boys have a definite tendency to choose occupations which call for muscular as well as mental effort. The first seven occupations given the first, second, and third choices call for a large degree of outdoor life. The second as well as the first choices should be considered, for, as J. C. Almack has said, "The first choice may be merely the ideal and the second

the practical."¹ The fact that a far greater number of boys gave aviation as their first or second choice than gave any other occupa-

TABLE I

NUMBER OF PUPILS GIVING FIRST, SECOND, AND THIRD CHOICES TO VARIOUS OCCUPATIONS AND NUMBER DISLIKING THESE OCCUPATIONS

OCCUPATION	FIRST CHOICE		SECOND CHOICE		THIRD CHOICE		DISLIKE	
	Number of Pupils	Rank	Number of Pupils	Rank	Number of Pupils	Rank	Number of Pupils	Rank
Boys								
Aviator.. . . .	184	1	99	1	37	5	5	13
Mechanic.	55	2	52	3	58	2	2	16
Engineer.. . . .	53	3	93	2	75	1	4	14
Rancher.	35	4	46	4	55	3	1	17
Carpenter.	27	5	27	7	32	6	3	15
Farmer	25	6	31	6	27	7	14	10
Forester.	19	7	38	5	42	4	5	13
Actor.	17	8	17	9	17	12	14	10
Lawyer.	11	9	8	13.5	24	8	17	9
Storekeeper.	10	10	8	13.5	14	13	4	14
Musician.	9	11.5	21	8	18	10.5	24	7
Teacher.	9	11.5	6	15	13	14	57	3
Doctor.	8	13	15	10	18	10.5	42	4
Bookkeeper.	7	14.5	12	12	10	15	11	11
Banker.	7	14.5	13	11	20	9	0	18
Girls								
Teacher	121	1	79	1	45	3	32	5
Actress.	76	2	53	2	33	6	28	6
Nurse	60	3.5	42	6	50	2	108	1
Stenographer.	60	3.5	47	4	42	4	18	11
Musician.	46	5	50	3	54	1	16	13
Artist.	28	6	45	5	36	5	19	10.5
Beauty-shop operator.	20	7	40	7	22	12.5	17	12
Aviator	15	8	11	15	11	17	0	20
Bookkeeper.	14	9	13	13	30	8	15	14.5
Clerk	12	10.5	20	9	23	11	22	8.5
Cook.	12	10.5	20	8	22	12.5	43	4
Home-maker	10	12.5	8	17	27	9	21	8.5
Secretary.	10	12.5	18	10	20	14	15	14.5
Dressmaker.	9	14	15	12	25	10	49	3

tion is particularly interesting. Some probable explanations for the popularity of this occupation are: (1) the large amount of general publicity given this vocation, (2) the appeal made by the very nature

¹ John C. Almack, "Survey Mountain View High School," p. 59 (unpublished study, 1928).

of the occupation to adventurous boys of adolescent and pre-adolescent ages, and (3) the fact that the most popular heroes of the past few years have been men in this field who have especially appealed to boys of the "hero-worshiping" age. Although all boys giving aviation as their choice cannot become aviators, teachers should make use in their teaching of this intense interest in aviation and in men like Lindbergh and Byrd.

In a survey of two senior high schools Almack gives the following conclusions concerning the pupils' occupational choices: "The inventory of choices shows a predominance of interest in 'white-collar' jobs."¹ Exactly the opposite result was found in this study among elementary-school children. The noticeable preference for outdoor over "white-collar" occupations may be due to (1) a lack of consciousness of social levels on the part of the children of these ages, (2) a lack of knowledge of the comparative remuneration of the different occupations, and (3) the desire for physical rather than mental activities which is characteristic of children of these ages.

The girls' choices give evidence of a widening of the field of occupations for women and a tendency to choose vocations which require specialized training. "Teacher" led the list by a wide margin. The occupation of nursing was given first, second, and third choices by a large number of girls, but it also led the list in the number of girls disliking it.

The dislikes of both the girls and the boys displayed an aversion to distasteful occupations (ditch-digger, garbage-man, etc.) and those dealing with difficult situations (for example, preacher and nurse).

A surprisingly small relation was indicated between the father's occupation and the son's occupational choice. However, the positive relations found were among occupations in which the boys had had some opportunity for first-hand experience (rancher and farmer). The negative reactions toward the fathers' occupations were negligible.

Pastimes —The data concerning pastimes given in Table II are in agreement with a recent study made among junior high school pu-

¹ *Ibid.*, p. 58.

TABLE II

SCORES AND RANKS OF PASTIMES ACCORDING TO INDICATIONS OF LIKING MADE
BY 550 BOYS AND 537 GIRLS IN GRADES IV-VIII

PASTIME	GRADE IV		GRADE V		GRADE VI		GRADE VII		GRADE VIII		AVERAGE RANK
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	
Boys											
Hunting.....	1.30	4	1.63	1	1.80	1	1.74	1	1.54	2	1
Camping.....	1.38	2	1.48	3	1.61	3 5	1.65	2	1.56	1	2
Swimming.....	1.33	3	1.60	2	1.52	5	1.63	3	1.52	3	3
Baseball.....	1.40	1	1.37	4	1.78	2	1.14	8	1.26	6	4
Hiking.....	1.25	5	1.17	6	1.61	3 5	1.55	4	1.30	5	5
Motion pictures	1.22	6 5	1.35	5	1.34	9	1.32	6	1.21	7	6
Radio.....	1.20	9	1.09	8	1.35	7 5	1.23	7	1.10	8 5	7
Basket ball..	.97	13	1.05	10	1.27	10	1.47	5	1.50	4	8
Playing games.	1.21	8	1.06	9	1.35	7 5	.98	10 5	.80	14	9
Track.....	1.00	12	1.15	7	1.25	11	.97	12	1.10	8 5	10
Picnics.....	1.22	6 5	1.01	12	1.23	12	.98	10 5	.95	10	11
Skating.....	1.04	11	1.03	11	1.17	14	1.08	9	.92	11 5	12
Reading magazines.....	1.06	10	.82	14	1.43	6	.93	13	.74	15	13
Reading newspapers.....	.93	15	.93	13	1.20	13	.85	14	.92	11 5	14
Tennis.....	.82	16	.49	15	.68	16	.65	15	.84	13	15
Music (listening to).....	.95	14	.45	16	.91	15	.51	16	.65	16	16
Dancing.....	.04	17	.15	17	.04	17	.35	17	.01	17	17
Girls											
Picnics.....	1.60	1	1.53	2	1.65	1	1.50	2 5	1.51	2	1
Music (listening to).....	1.54	2	1.57	1	1.49	6	1.53	1	1.59	1	2
Swimming.....	1.31	5	1.39	4	1.34	8	1.50	2 5	1.47	3	3
Motion pictures	1.25	8	1.40	3	1.52	3	1.40	5	1.46	4 5	4
Camping.....	1.26	7	1.24	7	1.53	2	1.48	4	1.34	6 5	5
Radio.....	1.32	4	1.18	9	1.50	4 5	1.21	8	1.34	6 5	6
Playing games.	1.36	3	1.20	8	1.42	7	1.19	9	.90	14	7 5
Hiking.....	1.11	10	1.07	11	1.50	4 5	1.32	7	1.14	8 5	7 5
Dancing.....	.97	12	1.33	5 5	1.30	10	1.18	10	1.46	4 5	9
Skating.....	1.28	6	1.33	5 5	1.13	13	1.14	11	1.11	10 5	10
Reading magazines.....	1.20	9	1.09	10	1.28	11	1.36	6	1.20	12	11
Baseball.....	.76	14	1.03	12	1.33	9	1.06	12	.86	15	12
Reading newspapers.....	1.05	11	.84	13	1.17	12	.66	15	1.00	13	13
Tennis.....	.79	13	.68	14	1.05	14	.98	14	1.11	10 5	14
Basket ball..	.14	17	.02	15	.75	16	1.02	13	1.14	8 5	15
Hunting.....	.57	15	.36	16	.77	15	.40	16	.40	16	16
Track.....	.23	16	.23	17	.34	17	.36	17	.36	17	17

pils, in which pupils gave high ratings to outdoor sports.¹ The scores given the various pastimes, home activities, school subjects, and

TABLE III
SCORES AND RANKS OF HOME ACTIVITIES ACCORDING TO INDICATIONS OF LIKING
MADE BY 550 BOYS AND 537 GIRLS IN GRADES IV-VIII

ACTIVITY	GRADE IV		GRADE V		GRADE VI		GRADE VII		GRADE VIII		AVER- AGE RANK			
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank				
Boys														
Eating.....	1.53	1	1.73	1	2.66	1	1.76	1	1.64	2	1			
Caring for pets	1.49	2	1.51	2	1.54	2	1.60	2	1.13	3	2			
Washing hands and face....	1.40	3	1.35	3	1.48	3	1.01	3	.76	6	3			
Taking bath..	1.32	5	1.23	4	1.40	4	.82	6	1.80	1	4			
Cleaning teeth.	1.37	4	1.13	5	1.28	5	.96	4	.80	5	5			
Going to bed..	1.29	6	.62	7	1.14	6	.67	8	.81	4	6			
Gardening....	.84	8	.63	6	1.07	7	.87	5	.54	7	7			
Cooking.....	.66	10	.30	11	.86	8	.76	7	.42	8	8			
Getting up....	.71	9	.51	8	.64	10.5	.36	9	.34	9	9			
Cleaning room.	1.04	7	.31	10	.79	9	.09	11	.32	10	10			
Mowing lawn	.56	11	.44	9	.64	10.5	.16	10	.20	12	11			
Practicing mu- sic38	13	.01	12	.31	12	.00	12	—	.11	13	12 5		
Doing house- work.....	—	.49	12	—	.21	13	.16	13	—	.47	13	12 5		
Washing dishes	.16	14	—	.83	14	.08	14	—	.78	14	—	.57	14	14
Girls														
Eating	1.71	3	1.74	2	1.78	1	1.52	1	1.56	1.5	1			
Washing hands and face...	1.73	1.5	1.77	1	1.66	3	1.43	3	1.54	4	2			
Taking bath..	1.63	5	1.71	3	1.74	2	1.37	4	1.55	3	3			
Cooking	1.54	6	1.62	4	1.58	4	1.46	2	1.56	1.5	4			
Cleaning teeth.	1.73	1.5	1.57	5	1.50	5	1.34	5	1.32	5.5	5			
Caring for pets.	1.67	4	1.40	6	1.45	6	1.26	6	1.23	7	6			
Cleaning room	1.35	7	1.26	7	1.38	7	1.25	7	1.32	5.5	7			
Doing house- work.....	1.10	9	.75	10	1.18	8	.95	8	.95	8	8			
Gardening ..	.99	11	.77	9	1.01	9	.73	9.5	.83	9	9			
Practicing mu- sic.....	.76	12	.99	8	.78	10	.73	9.5	.48	11	10			
Going to bed...	1.17	8	.67	11	.64	11	.50	11	.13	12	11			
Getting up...	1.04	10	.32	12	.47	12	.23	12	.49	10	12			
Washing dishes	.47	14	.30	14	.24	13	.17	13	.33	13	13			
Mowing lawn..	.48	13	.31	13	.16	14	.07	14	.07	14	14			

¹ Orlie M. Clem and Kathie V. Mallory, "Some Individual Differences of Pupils in One Typical Junior High School," *Educational Administration and Supervision*, XVI (January, 1930), 51

school and community activities were determined by assigning a numerical weighting to each of the five columns following these items. By means of an arithmetical formula using these weightings, the scores of the various items were determined.

A notable difference in the pastimes preferred by boys and those preferred by girls is indicated by the boys' strong interest in pastimes involving motor activity, in which boys usually excel, while the girls' preferences were for pastimes of a more social nature. A partial explanation of this result may be that the conventions and social restraints placed on girls curb their interest and their skill in pastimes requiring motor activity. With very few exceptions, the ages and grades of the children seemed to influence less the ranks given pastimes than the ranks given in any other section of the test.

Home activities.—The scores and the ranks of the various home activities, which are given in Table III, disclose results of interest to parents and teachers. Possibly the outstanding point to observe in the ranks given the home activities by both boys and girls is their preference for the duties concerned with care of the person (taking bath, cleaning teeth, etc.) rather than tasks about the home (cleaning room and washing dishes). The scores indicate that the activities disliked by the boys were much more intensely disliked than the activities disliked by the girls.

School subjects.—Table IV discloses some results worth consideration. That the younger children liked the school subjects more intensely than did the older pupils is indicated by the high scores shown for the lower grades. The situation may be due to the fact that the older children have more outside interests to attract their attention and to hold their interest than have the younger children. In some instances new subjects introduced into the curriculum received high ranks in the grades in which they were first offered, for example, home economics and manual training in Grades VII and VIII.

There was far less unanimity of opinion in the part of the test dealing with school subjects than in other parts of the test. The boys and girls did not agree in their likings for various subjects, and no general tendencies are evident in the case of either boys or girls.

School and community activities.—The task of preparing a test covering extra-curriculum activities of children whose ages covered such a wide range as did those in this study proved to be difficult,

TABLE IV
SCORES AND RANKS OF SCHOOL SUBJECTS ACCORDING TO INDICATIONS OF LIKING
MADE BY 550 BOYS AND 537 GIRLS IN GRADES IV–VIII

SUBJECT	GRADE IV		GRADE V		GRADE VI		GRADE VII		GRADE VIII		AVERAGE RANK
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	
Boys											
Reading	1.26	3	1.09	5	1.46	1	1.17	3	1.06	3	1
Physical education . . . .	.93	10	1.38	1	1.41	3.5	1.48	2	1.34	2	2
History	1.10	9	1.24	3	1.37	5	1.04	4	.97	4	3
Nature-study	1.23	6.5	1.12	4	1.45	2	.91	6	.74	7	4
Art	1.34	1.5	1.33	2	1.14	7.5	.70	8	.40	10	5
Geography	1.25	4	.94	7	1.14	7.5	.93	5	.80	6	6.5
Arithmetic	1.34	1.5	.84	8	1.27	6	.61	9	.84	5	6.5
Spelling	1.24	5	1.02	6	.57	12	.80	7	.37	11	8
Writing	1.12	8	.79	9	1.08	9	.52	10	.48	8	9
English	1.23	6.5	.66	10	.95	10	.51	11	.43	9	10
Civics . . . .	.....	.....	.....	.....	.89	11	.30	12	.34	12	.....
Manual training . . . . .	.....	.....	.....	.....	1.41	3.5	1.61	1	1.42	1	.....
Girls											
Spelling	1.66	2	1.40	1.5	1.46	2	1.23	4	1.76	1	1
Art	1.78	1	1.40	1.5	1.47	1	1.04	6	1.00	6	2
Reading	1.37	3.5	1.24	4	1.34	5	1.12	5	1.18	4	3
Physical education	1.25	6	1.08	8	1.35	4	1.53	1	1.37	3	4
Nature-study	1.24	7	1.21	6	1.42	3	1.32	2	.97	7	5
Writing	1.37	3.5	1.37	3	1.22	8	.90	8	1.05	5	6
Language	1.30	5	1.18	7	1.30	6	.97	7	.86	8	7
Arithmetic	1.17	8	.94	9	1.25	7	.83	10	.59	10	8
History	1.07	9	1.23	5	.54	11.5	.45	11	.49	11	9
Geography . . . .	.93	10	.67	10	.88	10	.84	9	.60	9	10
Civics . . . .	.....	.....	.....	.....	.54	11.5	.28	12	.42	12	.....
Home economics . . . . .	.....	.....	.....	.....	1.11	9	1.24	3	1.43	2	.....

since many activities provided for eighth-grade pupils are not given to fourth- and fifth-grade pupils. The pupils in fourth and fifth grades responded to such activities as the band, Boy Scouts, Girl Scouts, and Camp-Fire Girls chiefly with indifference; therefore, their reactions in these fields were unreliable and were eliminated

TABLE V

SCORES AND RANKS OF SCHOOL AND COMMUNITY ACTIVITIES ACCORDING TO
INDICATIONS OF LIKING MADE BY 550 BOYS AND 537 GIRLS
IN GRADES IV-VIII

ACTIVITY	GRADE IV		GRADE V		GRADE VI		GRADE VII		GRADE VIII		AVER- AGE RANK
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	
	Boys										
Helping others.	1.58	1	2.27	1	1.70	1	1.62	1	1.46	1	1
Taking part in contests	.95	7	1.03	2 5	1.31	2	1.15	3	1.00	3	2
Going to school	1.25	4 5	1.02	4	1.06	5	.80	7	.90	4	3 5
Going to church	1.40	2	.86	5	1.08	3	.67	8 5	.53	6	3 5
Collecting things	.78	8	1.03	2 5	.92	8	.93	4	.62	5	5
Going to Sun- day school	1.38	3	.84	6	1.00	6	.80	5 5	.45	8	6
Taking part in plays ...	1.25	4 5	.55	8	.70	10	.80	5 5	.46	7	7
Taking tests ..	1.08	6	.60	7	.97	7	1.0	12	.02	12	8
Playing in the orchestra...	.60	10	.48	9	.61	11	.52	10	.07	11	9
Operettas.....	.70	9	.17	10	.47	12	.41	11	.12	10	10
Playing in the band.....	....	....	..	..	.85	9	.67	8 5	.36	9	..
Boy Scouts..	....	....	..	..	1.07	4	1.17	2	1.16	2	....
	Girls										
Helping others	1.82	1	1.81	1	1.84	1	1.78	1	1.39	1	1
Taking part in plays....	1.57	4	1.57	4	1.43	2	1.36	2	1.22	2	2
Going to Sun- day school	1.70	2	1.62	2	1.36	1	1.33	3	1.04	5	3
Going to school	1.61	3	1.61	3	1.40	3	1.28	4	1.40	4	4
Going to church	1.55	5	1.30	5	1.20	6	1.20	5	.96	8	5
Operettas. . .	1.30	6	1.25	6	1.04	8	.95	7	1.00	7	6
Taking part in contests	1.24	7	1.10	7	1.05	9	.88	8	1.02	6	7
Collecting things....	.71	9	.88	8	.75	10	.53	11	.80	10	8
Playing in the orchestra...	.66	10	.66	10	.70	12	.58	10	.54	11	9
Taking tests.	1.10	8	.77	9	.63	13	.32	13	.07	13	10
Playing in the band.....	....	....	..	..	.71	11	.46	12	.42	12	..
Camp-Fire Girls. . . .	..	..	..	..	1.25	5	1.17	6	1.18	3	..
Girl Scouts	..	..	..	..	1.15	7	.84	9	.95	9	..

from the results of the test as given in Table V. The intensity of liking for the various school and community activities indicated by the upper-grade pupils was noticeably less than that indicated by the lower-grade children. A possible explanation is that pupils in the upper grades have a wider range of activities provided for them; consequently, their interests are more divided than are those of the younger pupils. The children of all ages evidently enjoy working and co-operating with one another, as the boys and girls in every grade evinced an intense desire to help others.

Summary.—The test which was given in this study may be considered a fairly reliable check of the vocational choices of the children tested, for the reason that it was given to a fairly large number of children (1,087 boys and girls) in eight communities with a wide range of environmental backgrounds. The weak points of the test consist in the inadequacy of the occupation lists given (a large number of occupational choices having been written in) and in the failure to check the reliability by retesting. The wide ranges in the ages and the grades of the children made it difficult to prepare a test which would be suitable for the fourth grade and still be adequate for the eighth grade.

Studies of this nature will be valuable to the teaching profession only in so far as the individual teacher makes use of the interests indicated to further the major objectives of education. Some actual knowledge of the child's interests is essential in order that we may better understand the pupil. Luckey concludes: "Whatever may be the demands of the curriculum, the true teacher will deviate far enough to discover and call forth the native interests of the child, for it is only when this interest is aroused and properly directed that the schoolroom can offer anything of permanent good."¹

¹ G. W. A. Luckey, "Practical Results Obtained through the Study of Children's Interests," *Proceedings of the National Education Association*, XXXVI (1897), 287.

UNITS OF WORK AND READING

HELEN LAURIE

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During the school year 1930-31 in the Co-operating City Schools of St. Louis County, Missouri, the teachers, the principals, the superintendents, and the supervisor came to the conclusion that in some respects they were teaching reading fairly well but that in other respects they were not doing as much as they should. They were taking care of the so-called "reading to gain skill"¹ or "work-and-play"² type of reading in the regular reading periods. They had also done considerable planning with the children for the making of attractive library corners in the classrooms, had helped the children in carrying out these plans, and had collected reading materials for the classroom libraries.

Many of the teachers agreed, however, that they were not enriching the children's lives by giving them opportunities to grow through rich experiences. The teachers recognized that the children were reading from books about many things which they had never seen and that consequently they failed to grasp the full meaning. The children did not have clear, true concepts of the things, animals, persons, and activities which were mentioned in their textbooks or library books. It was felt, therefore, that the teachers should consciously plan to give the children opportunities to develop valuable units of work which would help them to grow in understanding through worth-while experiences. It was also felt that some reading should naturally come out of these activities. This procedure would help to supply a kind of reading material different from that which has been published and might also build up a love for reading in a way that would be impossible without the use of some of the children's own compositions.

¹ Gerald Alan Yoakam, *Reading and Study*, p. 63. New York: Macmillan Co., 1928.

² Arthur I. Gates, *Interest and Ability in Reading*, p. 37. New York: Macmillan Co., 1930.

During the previous year, 1929-30, these conclusions had been brought to light through informal conversations held by the supervisor with teachers, principals, and superintendents. A few demonstrations had been given to illustrate the teaching of reading to gain skill, to show how pleasure reading may be developed through the use of the classroom library, and to illustrate the value of the creative-work period. An attempt had been made to demonstrate the value of the work period both from the standpoint of richness of experience and from the standpoint of need for some reading related to activities. However, the character of the work done during these periods was not stimulating, and the work periods did not show progression in power from grade to grade. It was thought that this fault might be overcome if at least one big interest were to be carried forward by each group of children. The hope was that such a common experience would not utilize all the children all the time in the work period, and thus cause the children to tire of the group interest, but that the common experience would help to point the work toward something vital and interesting by giving challenging opportunities for group work as well as time for individual projects.

In May, 1930, teachers were asked to send the supervisor a list of activities carried on during the year and a detailed description of their most satisfactory activity of the year.

In September, 1930, each teacher was given by her superintendent a twenty-one-page mimeographed bulletin fastened between durable covers. This bulletin, which had been prepared by the supervisor, contained a foreword outlining the intensive problems studied throughout the county for the preceding two years and stating that the planning and executing of worth-while units of work would be the special problem for the coming year. The reasons already cited in this article were also included in the bulletin. The bulletin contained a list of fifty-three different activities which had been carried on by the teachers during the school year 1929-30. These were classified as seasonal, recreational, aesthetic, skill, health, and purposing activities. The nature of a few of these activities is indicated in the following outline.

1. Seasonal

- a) Composing a group poem about all the things for which we are thankful at Thanksgiving time

- b) Making gifts for father and mother at Christmas time, the cards and tags to go with them, and wrapping them at school
- c) Having a Colonial party on Washington's birthday
- 2. Recreational
 - a) Having a coasting party
 - b) Having birthday parties
- 3. Aesthetic
 - a) Having a symphony orchestra
 - b) Telling about the beautiful things pupils saw coming to school
- 4. Skill
 - a) Keeping a record of number progress on a "Watch Us Run" chart
 - b) Keeping individual records of work done in a creative-work period
 - c) Having a "Good Readers' Club" and a "Read-a-Book Club"
- 5. Health
 - a) Keeping track of children's height and weight all year and working to improve health
 - b) Making a series of health posters to display in the hall for other children to see
- 6. Purposing
 - a) Organizing a schoolroom into a village
 - b) Taking care of Valle, the school cat
 - c) Planting radishes and lettuce and having a lunch from their own garden vegetables
 - d) Writing a newspaper regularly
 - e) Making and furnishing a three-room bungalow, furniture being made out of wooden boxes and large enough for children to use

The bulletin also contained a detailed description of how one teacher and her children had organized their room into work centers; a statement of the need for standards of workmanship, illustrations being given; and a discussion of the value of record-keeping, with illustrations. At the end of the bulletin was given a bibliography of books and magazine articles of a general nature dealing with units of work, classroom organization, music, nature-study, and the work period. The bibliography also included a list of valuable books, courses of studies, and magazine articles describing in detail units of work which had been carried out at different places.

The bulletin contained ten guiding principles for the selection of a unit of work. These principles helped teachers to select worthwhile units and to avoid duplications. The teachers in some schools, after choosing their units, held conferences in their buildings in order

that they might be sure they were showing progression in the selections. The guiding principles read as follows:

1. The unit of work should be of basic social value. Is it of value to the children now? Does it lead in the direction of our general purposes in education, such as (1) "the understanding of social relationships, (2) the observance of the laws of health and nature, (3) the appreciation of the fine and practical arts, and (4) the mastery of tools and learning?"¹ Does it lead toward what is meant by education? Is it of high social value?

2. It should fit the age of the child. Is this activity suitable for the present physical development of the children? Their mental development? Does this activity universally appeal to the children of this age? Will the children of this particular group be vitally interested in it?

3. The unit of work should be difficult enough to challenge and at the same time easy enough to enable the children to enjoy some measure of success. Is there something in the unit to challenge both the more mature and also the less mature children of the group? Will the less mature children be able to enjoy some measure of success?

4. The unit of work should lead into many kinds of activities to take care of individual differences. Are there opportunities for language expression in many different forms? Construction work with many different materials? Art expression with a variety of materials? Investigation into books, pictures, museums?

5. Units of work should show progression from activity to activity, semester to semester, year to year. Is it different from anything else studied? At the same time, is it related to what has previously been undertaken? Is it more difficult than anything previously attempted? Will it help the child to grow in thinking power and skill?

6. Units of work should lead into other worthy activities of a higher level. Is this unit final in itself? What leads might one anticipate? Are these leads bringing children to a higher level of purposing?

7. It must be possible to collect materials and to carry on the unit with available facilities. What materials may be used in carrying out the unit? Are these materials available? If not, what may be substituted? Is it going to be possible to carry out the unit satisfactorily with materials at hand? Is large material available to satisfy the needs of the small child for large-muscle activity?

8. A major unit of work should contribute to the children's efficiency in the tool subjects. Is reading of a somewhat intensive nature going to be needed? Of an extensive nature? What spelling, writing, and arithmetic in the required course of study may be used in the unit?

9. A unit is of no required length. How long will this unit probably take? How far may we carry it? Are there other activities going on in the classroom?

¹ Mabel E. Simpson, "The Kindergarten-Primary Unit," *Childhood Education*, VI (November, 1929), 112.

How can they be related? Will there be time enough to give the children opportunity for good thinking and for making some conclusions?

10. The ways in which an interest in the unit may best be stimulated should be considered. Have the children already found their interest in the unit of work selected by these guiding principles? How may the classroom environment be changed to stimulate an interest in it? Is the situation such that the teacher should rely on herself to arouse the interest in the children?

This program, undertaken to broaden the children's experiences, was carried forward through stimulation of interest and effort in many different ways. Often an activity was chosen to fit the required course of study or required textbook material with the idea of clarifying children's notions of things and people. The supervisor made available to teachers literature and materials needed for their chosen units of work. She held building conferences with the teachers and the principals, both collectively and individually. She visited classrooms where units of work were in different stages of progression, suggested places where the teachers might visit when desired, and arranged a few demonstrations by different teachers in the county.

Opportunities for the teachers of the county to visit widely during one week in May were planned. In some instances cadets from Washington University, the principal, or a substitute taught for the teachers. Some teachers visited neighboring schools before or after school or at the noon hour. Some cities also invited parents to visit in the evenings.

The children grew in understanding by carrying out the activities. They also gained power in reading and in the use of language by making records of their activities. These values may be more obvious if some illustrations of the activities that were carried on from the kindergarten through the fourth grade are given. It must be understood, however, that in every unit many other activities than reading were enjoyed and also that in every unit some related reading from books was done.

UNITS DEVELOPED IN KINDERGARTEN

In one kindergarten the teacher, through books selected from the library table, through the stories the children told and wanted told or read to them, and also through their informal conversations, came to a realization that an interest in animals was being developed.

She noticed too that, although the children had been taken to the zoo, they had observed very little about the animals. As a result, the teacher took the children to the zoo one morning. For days after the visit the children kept recalling what they had seen. The teacher heard such remarks as the following:

"The way Mr. Zebra licked the cake of salt was the funniest of all."

"No, the way Mr. Buffalo bucked his horns against the fence when he saw us coming."

"How those baby lions were sleeping all piled up together by their mother!"

"Oh, those baby lions were not half as sound asleep as old Mr. Alligator was before the keeper poked him with a stick."

The teacher noticed that there was an added zest for the library books about animals and that children who had not been especially interested in books were searching for books containing pictures of the animals they had seen at the zoo.

A few days after their visit the teacher showed the children a stack of large, blank scrapbooks and asked them if they would like to make a picture story of the animals they had seen. They made large colored free-hand drawings on paper of a size suitable for pasting in the books. A space was left under each picture. From time to time the children and the teacher discussed the story they would like to place under the picture of a certain animal and worked out a group composition. These stories were typed for them on the giant typewriter with double spacing and were placed on the desired page of their scrapbooks. They enjoyed looking in their books each time the story was read to them by the teacher. In the beginning of their books the children placed pictures which they had drawn of themselves in the school bus. As an illustration of the nature of the book, the story which accompanied the picture of the zebra is given.

Here is one of the zebras.

They look something like a horse only they have black stripes on their white skins.

They followed us all around the fence and were friendly to us.

We think they wanted to play.

There was a big lump of salt in the zebras' pen.

Only one zebra was licking the salt, and he didn't see us.

Most every animal needs to eat a little salt to live.

We liked the zebras very much.

When the books were finished, the pupils enjoyed having every story read to them a number of times before each child took his home to be read again by some adult. They liked to have their books open while a story was being read by the teacher. One child said to his teacher, "Do you think I can ever read my book all by myself?" The teacher told him, "Yes, if you can wait until you have been in the first grade, for there you will learn how to read."

Another kindergarten teacher took her children to the fire department. Such an interest was aroused in the life of the firemen that the children carried on the following activities: (1) visited Clayton fire department, (2) listened a number of times to the story of "Jip and the Fireman,"¹ (3) listened to many other stories about firemen, (4) enjoyed looking at the books about firemen on the library table, (5) made up stories about firemen, (6) learned songs about firemen, (7) looked through many magazines obtained from the fire chief, (8) cut pictures from these magazines to paste in a scrapbook, (9) built and painted a firehouse like the one they had visited, (10) made firemen's hats with numbers on them, (11) made a fire hydrant, (12) made a ladder, (13) brought hose from home, (14) brought rain coats and hats from home, (15) used two little wagons for fire trucks, (16) made many easel paintings of fires, trucks, and firemen, (17) made many free-hand cuttings, (18) dramatized the life of a fireman. The teacher made a frieze of their easel paintings to decorate the room for a short time. When she took these down, she surprised the children by putting them into a large, durable book. She had typed each child's own story of his picture on the giant typewriter and mounted it opposite each picture in the book. She had recorded what each child had told the other children about his picture when he had first shown it to the group. Here is one of these childlike stories.

"Ding-a-ling, ding-a-ling," rings the telephone.

"Hello! Hello!" says the Fire Chief.

"Fire on Main Street! Store burning! Store burning! At 52 Main Street. Come quick and save my store!" said the storeman over the 'phone.

The siren blew, "Oh, Oh, Oh—Oh, Oh, Oh!" And the truck went speeding down the street. Clear the way! Clear the way!

¹ Helen S. Read, "Jip and the Fireman " New York: Charles Scribner's Sons, 1929

It is not surprising that these children were so delighted with this book that they almost wore it out looking at it, playing that they were reading and asking their teacher to read it again and again.

In these ways a great desire to read and the right attitude toward reading were built up in kindergarten children.

UNITS DEVELOPED IN FIRST GRADE

Some first-grade children had two white rats in their room. The children took care of the rats and watched them. From time to time the teacher wrote on the blackboard the stories which the children made about the rats. These stories were permanently recorded by the teacher in a large book in manuscript writing. The children enjoyed reading and re-reading this book. A part of the final story follows.

Our pets are white rats.
Their names are Tom and Betty.
They have pink eyes and long tails.
They live in a cage.
We feed the white rats.
We feed the white rats milk.
We feed the white rats water.
We feed the white rats bread.
We also give them lettuce and cheese.
We get the food from Ida.
We came to school Monday morning and found a nest.
They tore up the newspaper that was in the cage.
The father and mother rats built the nest.
We are so happy.
We have eight baby rats.
They are so small and red.
They do not have fun.
Oh! Their eyes are not open. They cannot see!
The babies cannot walk. They stay still.
Betty picks them up in her mouth.
She carries them where she wants them.
Father Rat likes the babies
They are covered all the time.
We give Betty lots to eat.
She feeds her babies.
She gets on top of them to keep them warm.
We have counted the days, and it is fourteen days.

They are beginning to try to walk.
Their eyes are trying to come open.
Little white fur is coming out on them.

The children in another first-grade room were learning about different people and activities in the community. They visited a grocery store and decided they would build a store large enough for them to use. Much bulletin-board material resulted from this activity as well as related reading from the classroom library and the composing of the story of their store from day to day. This story was printed by the teacher in a large book after it had been told to her by the children. The book contained the following material: "Our Helpers," "Our Trip to the Store," "What We Saw in the Store," "Building Our Store," "The Contest," "Games To Play," "Grocery-Store Songs," "Grocery-Store Poems," "The Grocery-Store Party," "Playing Store," "Grocery-Store Stories," and the "Word List." Such a great variety of material appears in this book that it is difficult to give any idea of the content. The following are illustrations.

BUILDING OUR STORE

We built our store of apple and orange boxes.
Mr. B ____ sent us the apple boxes.
He is Myrtle's father.
He is a grocery man.
Betty Rose and Muriel brought boxes too.
The W ____ Food Shoppe gave us boxes.
Russell nailed the boxes together for us.
We made stucco to put on the outside of the store.
This is how we made it:
 We brought flour from home.
 We bought the salt.
This is our recipe:
 8 cups flour
 3 cups salt
 5 cups water
 1 cup white sand
 Add color if desired.
 Stir well.
We collected many things for our store.
We painted salad-dressing jars cream color.
We painted catsup bottles red.
We made fruit, vegetables, and candy jars of clay, and painted them.

Mrs. B ____ brought us sawdust for our sugar and flour sacks,
She brought us a refrigerator and scales for the store.
We made aprons to wear in the store.
We like our store.

A GROCERY-STORE STORY
ON THE TELEPHONE

Miss M ____ hears us play store.
She heard Doris Jean telephone the grocery store.
This is what she heard.
"Ting-a-ling-a-ling.
"Webster 707
"Hello, is this the Village Grocery?
"This is Doris Jean.
"Will you please send these things over right away?
"One loaf of bread
"Two cans of corn
"A large can of cocoa
"Have you spinach?
"How much is it?
"Well, send me four pounds of spinach.
"Yes, that is all.
"Goodbye."

A UNIT DEVELOPED IN THIRD GRADE

A group of children studying Carpenter's *Around the World with the Children* in a high-third grade made booklets containing colored pictures of the children of different lands and a story for each picture. The following is the story about Benito and Carmen.

My name is Benito. I am ten years old. I have a sister. Her name is Carmen. She is nine years old. We live on the Philippine Islands. Our home is a thatched hut built of bamboo poles tied together and covered with palm leaves. We have little furniture. My bed is a mat on the floor. We cook on clay bowls filled with charcoal. I like to ride on the buffalo.

A UNIT DEVELOPED IN FOURTH GRADE

Children in a fourth grade studied the history of St. Louis. This study was made vital by excursions to the museum, dramatizations, and the making of individual booklets by the children. The booklets contained drawings, accounts of historical happenings, records in picture form of things seen at the museum, a copy of an old picture map of the city with the town well, and various clippings and

pictures of the early days collected by the children. One of the stories will illustrate the interesting content of this book.

THE MOUND BUILDERS

Long, long ago, there lived people called Mound Builders. We do not know where they came from nor where they went. Some think they were all killed by some dreadful thing. Others think they were the ancestors of the Aztec Indians in Mexico. They were peaceful, home-loving people who worked hard together. We know that there were large numbers of them and that they were good farmers because the mounds are found only in places of rich soil. Many of their relics that have been found are farming implements, such as hoes, rakes, and spades.

Many mounds built by these people have been found in the Ohio and Mississippi River valleys. The largest ever found is Monk's Mound. It is in Illinois about an hour's ride from St. Louis. It is now a state park so that people may enjoy it more.

There was a big rectangular mound in St. Louis which was sold for \$10,000 and cut down many years ago. It was from this mound that St. Louis took its nickname, "The Mound City."

In all this booklet-making the teachers and the children examined books in their libraries to see how books are made with a flyleaf, a frontispiece, title-page, table of contents, and so on. They tried to maintain high standards of workmanship, art, and English.

CONCLUSION

More than a thousand teachers visited the different schools. The visiting seemed to have a stimulating and broadening effect on the visitors by showing them the different ways in which teachers may work out the same unit and the variety of educational interests which may be developed. It was gratifying to teachers to find that their school neighbors were interested enough to call on them during the noon hour and to find that they were close enough together to receive this exchange of ideas. The children enjoyed their activities and the visitors.

A brief bibliography of literature found helpful in planning this program on units of work follows.

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COURSES OF STUDY

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MAGAZINES

American Childhood
Childhood Education
Progressive Education

Educational Writings

REVIEWS AND BOOK NOTES

A fair wage for teachers.—"How much can society afford in its own dollars-and-cents interests to pay any given group?"

"The essential purpose is to find a sound economic *method* for determining, first, the economic 'fair' wage for any occupational group; second, the economic 'fair' wage of the teacher" (p. 2).

Thus does Dix state the problem for which he attempts to reason out a solution.¹

As the author implies in his title and makes entirely clear in his concluding chapter, he is seeking economic foundations and is not announcing a formula which can forthwith be applied to the computation of a salary schedule. However much we may dissent from his technological attack on the problem—and his attack is eminently respectable—and however keenly we, and no doubt he, may realize that much more is to be said, he has certainly pushed the boundaries of the thinking which is applied to this matter a good deal farther out.

The study begins by quoting Moehlman (*Public School Finance*) in repudiating sentimental treatment of the subject—a process that has been carried so far in certain quarters by the educational demagogues that some groups of public-school teachers seem never to be happy unless they are being told that they are the bulwarks of civilization and "society" can never pay them enough. The end of that road is that they get no wages at all. Of course sentimentality is the antithesis of thinking.

Out of that morass, we begin to get on some sort of solid economic ground in the doctrine that salaries should be based on cost of living, the most conspicuous representative of which is perhaps the attractive pronouncement of the Yale professors. Dix dismisses the idea by pointing out that increasing salaries and increasing cost of living go hand in hand. If we found a theory on that basis, the sky is the limit.

He next cites Moehlman's much more respectable theory that teachers' wages should bear a relatively constant relation to the wages of common labor and that such a ratio is capable of being computed and applied.

¹ Lester Dix, *The Economic Basis for the Teacher's Wage*, Lincoln School Research Studies, New York: Lincoln School of Teachers College, Columbia University, 1931. Pp. xiv+114. \$1.75.

Criticism consists in calling attention to the deficiencies of the Ricardian theory of wages, upon which he thinks Moehlman's proposals ultimately rest.

These conditions remove the chief attraction that Moehlman found in the wage of common labor. This wage tended to be relatively stable because there had always been artificial restraints upon the laborer's opportunity to move to higher wage levels. By tolerating a continuous oversupply of labor, society had kept the wage of labor just high enough to prevent unskilled laborers from disappearing into vagrancy, criminality, and starvation [p. 14].

In the judgment of the reviewer, the quotation is historically untrue, and it rests a good deal on the assumption that there is in the world a self-conscious personal being called "society," who is sometimes malicious and always stupid and which is forever doing things it ought not to do and leaving undone the things it ought to have done. Of course, there is no such being. Society is an organism and not a person, either individual or collective.

Ricardo lived in a time when English people spawned rather than bred, when industry was organized almost entirely on an individual-shop basis and there neither was nor could be such a thing as collective bargaining. If an individual owner advanced wages, his increased labor cost would drive him out of business. If workmen struck or rioted, the only effect must be to drive their employers out of business and themselves out of wage returns altogether. Betterment came about in three ways: first, by the appearance and spread of labor unions which could perform the function of collective bargaining; second, by the growth of corporations with which bargaining could be done; third, by marked reduction in the birth-rate. The "iron law of wages" was true then, and it is true now. So was the iron law of gravitation. So was the iron law that most babies would die if they were malnourished and contracted the diseases of infancy. So are they now. Betterment has come by understanding the laws of nature and obeying them. The chief contribution of Dix's study is that it helps to see into one of these laws as it applies to the remuneration of teachers.

So far as artificial restraints are concerned, these are modern inventions in the direction of betterment. In Ricardo's time women and small children could be worked anyhow and anywhere. If a workman was injured or killed, that was his hard luck. Control of the conditions under which women and children work, prohibition of the employment of young children, workmen's-compensation acts, restriction of immigration—all are artificial restraints, and none of them has any tendency to create a labor reserve. Adequate artificial restraint of the latter sort of thing is a problem yet to be solved.

No, Moehlman's theory is a step on the road which Dix has traveled and gone farther.

The author then takes his point of departure from A. C. Pigou's *The Economics of Welfare*, and indeed he evidently rests heavily on the Cambridge school of economics in general. Pigou's principle may be stated as the editor states it in his Introduction to Dix's study: "The national dividend will be at a

maximum when occupational groups requiring equally scarce native abilities receive equal marginal incomes" (p. v).

The theory itself is in reality nothing more than a restatement of the law of supply and demand with a specific application, or at least an application of the doctrine of the supply-and-demand schedule to social affairs. One would like to amend by striking out the word "native" as being nonessential. Indeed such emendation would be in harmony with the generally humanitarian tone of the study and perhaps save us from setting up a new "iron law" of human betterment.

The "courageous" part of the work—although I do not see why it should be called "courageous" when "logical" would do just as well—consists in Dix's application of Pigou's academic theory. He evidently communes thus with himself. "Equally scarce native abilities? What is scarce? Why, intelligence, native or acquired, is scarce! And teachers are supposed to be intelligent. Can we measure their intelligence? Indubitably. More than that, we are furnished periodically with popular-income distributions which will serve as the Englishman's national dividend. The problem is solved." And so it is.

There is an abundance of material from which samplings of intelligence-test scores can be had, and we have good figures for distribution of individual incomes. It remains to make comparison of the intelligence scores of teachers with those of the general run of the gainfully employed. An index of comparison is gained which can be applied to the income levels of the gainfully employed.

And so it turns out that the mean annual income of teachers in the elementary schools with two years of training who were in service prior to 1925—the marginal group which school people would be willing to admit as qualified at all—consistent with maximum general welfare would have been \$2,515.

Curiously enough, approaching the problem from an entirely different angle and making reductions similar to those noted later, the reviewer thinks that the figure is probably about right. That is to say, he thinks that, if inhibiting factors, some of which Dix recognizes in his last chapter, had been removed, the "iron law" of wages would have landed this group at about that mean income *provided* Pigou's principle had really and faithfully been applied throughout the entire income scale. More than that, he thinks that wages had been tending in that direction for thirty-five years past. Note that Professor Douglas shows, in his study entitled *Real Wages in the United States, 1890-1926*, that of all the occupations studied the wages of public-school teachers showed the greatest proportionate increase.

Does it follow that the way is open to confer upon teachers such relative financial bliss by the simple expedient of finding their respective I Q's and paying them accordingly? Of course not. We have here only a method of estimating at what point on the income scale teachers' salaries might conceivably come to rest in an economic world which is governed by law and not by popular sentiment. It is worth something to know that there ought to be a class of

people at work in our schools receiving something like the figures cited, and not \$500 nor yet \$5,000.

As to the "native-intelligence" aspect of things, nobody but a dwindling group of educational psychologists will grant that Dix was dealing with native intelligence at all, nor need he. The tests used, if applied over a sufficiently large number of cases, yield a good index of relative cultural levels, and, since it is general culture that undoubtedly counts most in the schoolroom, or at least primarily, we may assume that better professional insight acquired in training and adaptability to school work would correlate well with cultural level, as well as with real economic value as measured by demand.

The author now assumes that in determining salary levels the general average of income from property should be deducted. This, I take it, is in accordance with Pigou's principle that it is income with which we are first concerned and not wages merely. It ought once more to be noted that Dix is carefully working out estimates in the direction of economic foundations for general wage levels—and that in the interest of maximum national dividend so far as the teaching group is concerned. He does not imply that the individual teacher should be called before the controller monthly, forced to declare his or her income from property, and the pay check reduced accordingly. As property income he includes such items as "interest, dividends, rent, accumulated insurance or annuity payments, or the rental value of the equity in a partly or entirely owned home occupied by the worker" (p. 82). I presume that instead of accumulated insurance or annuity payments there should rather be counted the present worth of the annual value at maturity of these investments. The mean of this income from property as thus defined amounts to \$880 in the sample group which he is studying. The actual wage would then be \$1,635.

It must be remembered that he thus pictures a general condition expressed in averages, throughout the United States let us say. He would freely admit, I take it, that the operation of supply and demand, and bargaining going on under the law, would generate variations from the norm as local cost of living, intangible factors connected with positions, risk, "future," and the like might dictate.

It ought to be pointed out that the principles of Marshall, Pigou, and indeed others are neither socialistic nor communistic. They look toward social conditions and remunerations under which the national dividend will be at a maximum. The principles set forth are only what intelligent business men have come to accept, save that in their case it is the "purchasing-power" aspect of things which intrigues them. Such acceptance in the industrial world has led to a veritable revolution in the theory of the relation of profits and wages.

Nevertheless, the principles set forth cut both ways. They are as applicable to overpayment as underpayment. The heart of the matter is: What is the balancing point between emoluments which are excessive and those which are inadequate? Teachers, like other people, may be paid more than they are worth as well as less than they are worth.

I have found fault with the tendency to anthropomorphize society. I might equally well quarrel with the use of "fair" in economics. The term belongs to jurisprudence. If I agree to work for a man for a given stipend and he refuses to give that amount to me when my work is done, then it is a right use of words to say that I have been "unfairly" treated. If I agree to work for a given wage and he pays me that wage, then there is no element of unfairness in the situation. Nevertheless, people are constantly talking about "fair wages." I have known teachers who would complain that they were unfairly treated if they received \$20,000 a year provided their neighbor received \$25,000. The heart of Dix's work is that he accepts this challenge of "fair wages" and ascertains by a process of good economic reasoning what fair wages really are.

Altogether, the study marks distinctly a step forward in intellectual methods of attacking fundamental problems in the great matter of public instruction. It is a help in getting away from sheer empiricism, in pointing out what the immense accumulations of facts now in our hands mean.

HENRY C. MORRISON

Scientific value of determining the "kinetic demand."—A recent book¹ represents a distinct contribution to the field of teacher training. Its chief value lies in the technique suggested for gathering and interpreting data rather than the conclusions reached concerning the immediate problem of supply and demand of teachers in Minnesota. The author has added a new term to educational literature, "kinetic demand," which he defines as "all positions the personnel of which has changed in any year in addition to all positions in which the combinations of activities have changed. If a teacher-position consisted of Latin and French in the year 1920-21 and did not appear in the same school in the year 1921-22, but in its place the combination of English and Latin appeared, the latter was considered a new type of position demanded in that school and was listed in the kinetic demand for positions, even though the same teacher taught it" (p. 2). By determining the "kinetic demand," the author holds that the state will be able to determine its needs more scientifically than in the past.

The data assembled in this study have been treated in such a way as to indicate trends and to establish procedures of measurement. The period covering the study extended from 1919-20 to 1929-30, and the number of facts tabulated totaled 1,400,000. One is impressed both by the extensiveness of the study and by the statistical methods used in the treatment of data. The reader is assured of the validity and the reliability of the study.

A series of percentage index numbers has been developed graphically to show trends in the demands for various subject-matter combinations over a period of years. Conclusions are drawn concerning the relation between size of schools

¹ Alfred Victor Overn, *Indices of Supply and Demand of Teachers in Minnesota* Minneapolis, Minnesota: University of Minnesota Press, 1932. Pp. xxvi+254. \$2.50.

and the number of different subjects taught by teachers. Facts are presented to show the number of various types of teachers trained by the University of Minnesota and the teachers' colleges in the state. An analysis of the demand for men as compared with the demand for women for various types of positions is included in this study. Finally, implications for the guidance of students are made.

To those readers who want a quantitative answer to the question of the supply and demand of teachers in Minnesota, this book will prove disappointing. The size of the teaching body and the wide scope of the investigation, coupled with inadequate material, apparently made it impractical for the author to give a final answer to the pressing question of supply and demand in Minnesota. However, he has proposed a plan which, if accepted and followed by the state, will place the matter of teacher preparation on a scientific basis.

WILLARD S. ELSDREE

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The Auditorium in the school program.—A book¹ of 414 pages dealing with auditorium plans and procedures in public schools has been presented by Miller and Chaffee, one a director of auditorium work, the other a principal of a junior high school. The volume gives a compilation of information which represents the most complete and valuable overview of auditorium practices that has come to the attention of the reviewer. It should find its greatest use by college and university classes studying the auditorium plan of organization, by administrators and supervisors who desire a clear understanding of the philosophy and procedures guiding the auditorium movement, and by teachers who need suggestions in daily auditorium activities.

This discussion of auditorium practices is organized in five parts and is a comprehensive treatment of the field. Part I gives eighty pages to the consideration of the theoretical, historical, and psychological bases of the auditorium social arts; Part II, ninety pages to the elementary-school division; Part III, 128 pages to the intermediate or junior high school division; Part IV, thirty-nine pages to the senior high school division; and Part V, sixty-six pages to a general discussion of the educational status of auditorium activities.

The Auditorium Social Arts is, therefore, an attempt to cover the whole field of these activities. In this attempt its strength is also its weakness. One finds it difficult to determine for whom the book is intended or to whom it will be most helpful. The authors give a brief, clear statement of the underlying principles and the historical development of auditorium activities, such as a person not familiar with the field would need for a proper understanding of the aims and purposes which brought about auditorium procedure. They then give word pictures of auditorium procedures in elementary-school, junior high school, and senior high school organizations in some twenty selected cities, such as Gary, Detroit, Pittsburgh, and Dallas. Part V, "General Educational Status of

¹ Harry Graves Miller and Newton W. Chaffee, *The Auditorium Social Arts* Boston: D. C. Heath & Co., 1932. Pp. xli+414. \$2 20.

Auditorium Work and Its Characteristic Problems," gives briefly the results of several surveys made by college and university classes with regard to the organization and administration of the auditorium program. These chapters raise many questions the discussion of which should be helpful to teachers, supervisors, and administrators. The final chapter, "Teaching Aids," consists chiefly of suggested aims and activities and a classified bibliography.

Throughout the book there is much evidence of careful research and of experience tempered with a sane philosophy. The discussions of particular problems and phases have been prepared by associates who are specialists in their respective fields or who have summarized local procedures. The authors have attempted to be practical. Their frank, pertinent criticisms or comments help to clarify descriptions and explanations of these local practices. Although the types of auditorium practices selected cover a wide, geographical distribution, there are few or no references to auditorium work in the small cities or in small schools. From the authors' type selections the reader is likely to get the idea that the auditorium is a device for the large city or large school, whereas Superintendent R. C. Hall, of Little Rock, Arkansas, and other students of the platoon school have shown that the auditorium plan may be organized and scheduled so that it will also be practicable in the small school.

The most complete section in the book is that concerning the junior high school. Not only does it include type programs, but it also gives the complete course of study for auditorium work used in Saginaw, Michigan. A course of study of a similar nature for an elementary school, or even a tabulated summary of the types of elementary procedure quoted, would have been a helpful addition to the book.

The three pages given to a discussion of the "Home-Room Type" are very inadequate. "Home room" is not even listed in the Index. This omission conveys the idea that few junior high schools have this type of organization whereas the home-room type occurs more often than does the platoon or auditorium type. The Holmes Junior High School plan in particular is discussed, but the authors do not complete the picture. The reviewer has seen these "six or seven" groups in their regular auditorium periods with only a very small percentage of these two or three hundred pupils taking active part. Discussion of the "economy" possible under the Holmes Junior High School plan fails to explain how such "economy" has affected and handicapped teacher allotment in other Philadelphia junior high schools.

Furthermore, the authors should have given a more complete discussion to the program of grade placement of content material, since many communities will require that the school recognize or celebrate certain dates and events in an appropriate manner in all grades.

However, the book is, all in all, a valuable source of information about auditorium plans and organizations and may be ranked among the best in its field.

CHARLES F. ALLEN

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Teaching music reading in public schools.—A recent contribution to the literature of music education is a book dealing with the mastery of the music score in school singing.¹ The contents are a compilation of methods previously discussed in print and of methods which have been tried in various school systems. However, the book is not devoid of originality nor of constructive ideas, for the author has set up standards of achievement and criticized some of those in general acceptance. Problems which frequently interfere with the successful accomplishment of work in interpreting music notation are analyzed, and means for coping with them are set forth. Emphasis is given to the facts that children are unlike, that no one set pattern of instruction will fit all, and that, if interest is to be sustained and satisfying results obtained, the weight of thought should always be on the music itself rather than on the process of reading it.

In the Preface the author states that the book is designed for use as a textbook in teacher-training courses and as a reference book for teachers in service. The chapters, all dealing with the performance through reading of vocal music at the elementary and the junior high school levels of instruction, treat standards of achievement, the teaching of notation, adjusting procedures to individual differences, sustaining interest in the intermediate grades, handling part work, teaching reading without syllables, testing the results of instruction, music in rural schools, and music and the activity program. Space is devoted to the need of adequate teacher training, while the final chapter is a summary of the main findings of the book. Questions, exercises, and lists of supplementary readings are given at the end of each chapter, which, on the whole, are helpful. A tendency to propound questions requiring purely factual answers sometimes detracts from the usefulness of the questions. Needless repetition is noted, particularly in suggestions for the activity program. Occasional errors in proofreading are evident, as in the spelling of proper names—"Damrosch" and "Gehrkens" (p. 57)—and the word "score" (p. 159). The format of the book is pleasing, and the Index is good.

The author has chosen a title which is broad rather than definitive. One wonders why she did not select a title which more nearly characterizes the contents of the volume, for the reading of music, although recognized as important, has for some time ceased to be the only phase of music-teaching in the school. However, the book, written in clear and acceptable style, is a distinct contribution to the all-too-limited number of books now available in the field.

ANNE E. PIERCE

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Selecting and educating exceptional children.—It is a distinct departure from the beaten path to claim that a classroom teacher can be given brief, definite instructions which will enable him, after a few weeks' observation, to make a fairly close appraisal of a backward or a brilliant pupil's mental age without

¹ Alma M. Norton, *Teaching School Music*. Los Angeles, California: C. C. Crawford (University of Southern California), 1932. Pp. 248. \$2.00.

using a standardized test. A publication dealing with the education of exceptional children¹ provides a technique for the tentative selection of pupils in need of special instruction. Although this technique is but one feature of the book, it is, if as promising as the author's experience leads him to believe, the outstanding contribution of the study.

The appraisement is based on examination standings, extent of retardation or acceleration, class tests, life-histories, and informal confidential group tests of relative mental ability. The latter are, for the most part, adaptations of various items of the Stanford Revision of the Binet-Simon Intelligence Tests.

The author finds that such tests as (1) repeating digits, (2) copying a square, (3) copying a diamond, and (4) giving word meanings are easily administered in an informal group situation and that they can be objectively scored. The author would not dispense with the regular psychological examinations, particularly for those children who require institutionalization or assignment to special classes. He believes, however, that the procedure outlined is a necessary adjunct to formal testing in obtaining the appraisements on which the final dispositions of exceptional cases are based.

The volume contains chapters on the education of backward and brilliant children. Although much of the material is old, the book is to be recommended because it is comprehensible to the layman. It shows evidence of having been prepared to meet the needs of parents, welfare workers, and rural teachers as well as those of specialized educational experts. The treatment is tempered throughout by the author's good judgment, developed, no doubt, through experiences gained in a long career of educational service. Taken as a whole, the volume is a very useful presentation of valuable material.

HERMAN G. RICHEY

The influence of manuscript writing on learning to read.—The effect on reading is one aspect of manuscript writing which hitherto has been studied only by means of teachers' observations. The legibility and the speed of manuscript writing have been measured. While the tests of legibility and of speed have, on the whole, been favorable to the use of this style of writing in the primary grades, its advantages in these respects have not seemed sufficiently large or certain to make it clear that manuscript writing should be adopted. Cursive writing appears to be a better style for older children and adults. If manuscript writing is taught in the primary grades, therefore, it is desirable to shift to cursive writing before the intermediate grades. If manuscript writing is adopted in the primary grades, the considerations favoring it should be strong enough to outweigh the disadvantage of this shift.

In view of these facts, the influence of the two styles of writing on the rapidity

¹ S. B. Sinclair, *Backward and Brilliant Children*. Toronto, Canada: Ryerson Press, 1931. Pp. x+76.

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THE ELEMENTARY SCHOOL JOURNAL

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Educational News and Editorial Comment

RETRENCHMENT IN SCHOOL EXPENDITURES

There has developed throughout the nation an insistent demand that the cost of government be reduced. There can be no denial of the fact that there have been extravagance and inefficiency in the expenditure of public funds. It is even more obvious that the burdens of taxation have become too great to be supported by an antiquated and inequitable tax system. The general public has become critical, skeptical, perhaps somewhat resentful, in its attitude toward public expenditures. In many communities the officials responsible for fiscal policy, instead of attacking extravagances, inefficiency, and an unworkable tax system, have met the demand for retrenchment by the simple expedient of a more or less general reduction of expenditures. In many communities, moreover, the schools have been required to bear a disproportionate share of the reduction in the cost of government. There seems to be a widespread popular feeling that the schools of this country have been undertaking too ambitious a program and that many items in this program may be eliminated without any serious social consequences. The following editorial published in the *Boston Herald* expresses the point

of view of those who are demanding further retrenchment in school expenditures.

The *Herald's* news story yesterday morning that the cost of educating a pupil in Fall River has been reduced to \$72.44 from the \$109.33 of 1929 and that the average in thirty-nine Massachusetts cities is \$103.82, raises again the general question of school expense. The problem is serious and vexatious. Some progress has been made, but a great deal more is necessary. When the educators and the legislators come to realize the need of further savings in every department, our school and other budgets will show a decrease which would have appeared sensational in any other period.

The commonwealth and the local communities have built up an educational system which is perhaps superior to anything elsewhere in this country or abroad. We have had on the whole a good return from our outlay, but we cannot afford it any longer. Educators disagree among themselves as to what constitutes a frill and what a necessity is, but they all admit that our education is over-embroidered.

They disagree, too, as to standards, saying that Newton or Brookline or Winchester may properly maintain a more elaborate scheme than Revere or Chelsea or Fall River. Obviously, that is correct. When all the differences of the experts are given proper consideration, however, the fact remains that education is now costing us too much. We have referred often to the nautical training ship and to the excessive number of normal schools. Specific illustrations of the same kind could be found readily in most towns and cities. Certainly waste has abounded here in Boston.

The task is one of ways and means. No intelligent man would go at it hammer and tongs, but that is likely to be the result unless the educators and legislators take hold of the subject and go at it vigorously. The difficulties are many, with legislators trying to retain everything which their own districts now have, and with mayors and school committees reluctant to act voluntarily. . . .

Educators themselves ought now to be considering the whole broad question carefully. Their leadership and prestige are at stake. They might tell us whether the savings should be brought about by increasing teacher loads, shortening the school year, reducing salaries, abolishing kindergartens, scaling down building appropriations, or by a combination of all. They should be able to outline tentatively a comprehensive readjustment to financial realities and to show us how to attain a maximum of economy with a minimum loss of efficiency in state, city, and town schooling.

A very different point of view is held by Robert M. Hutchins, President of the University of Chicago. In a recent address before the Rotary Club of Chicago, President Hutchins made a statement of such timely significance as to warrant quotation at length. The statement as here quoted was published in the *New York Times*.

Most of the higher learning in America is carried on in tax-supported state universities. The situation of all these public institutions is now so critical that, unless there is some change in the attitude or condition of our people, there is indeed very little hope for the continuation of that higher learning which is my theme.

The principal function of the private universities in the educational system is to provide the leadership or the recklessness which shows the public institutions what they should or should not attempt. They have led the way in research and in educational experiment and have demonstrated to the legislatures that it is a good thing for the community to pay professors a living wage.

Such payment is not charity which the professors should accept with humility and reward with silence on controversial issues. It is an investment in intelligence. The private universities have struggled to maintain the right of the scholar to exercise his intelligence even though it led him to criticize established policies or institutions. Their example has enabled most state universities to take the same position, with infinite profit to their states.

These spiritual values the private universities will always have for the educational system as a whole. But their income, like that of other aggregations of capital, is now so much diminished that they cannot hold out much longer in their effort to present education and research in their proper economic perspective.

Our people must, therefore, themselves believe that tax-supported education and research are important and must themselves determine to protect them. At the present time the ordinary American gives little evidence of any such belief or any such determination. We hear instead that the cost of government must be reduced.

Now, I do not believe that in the long run the cost of government can be reduced, or should be reduced, or will be reduced. Certain costs of government could and should be reduced. The total cost of government could and should be redistributed, with certain items increased and other items eliminated.

The increases that we may expect in federal taxes to support the social services and to provide for the relief of the destitute are far greater than any reductions that can be accomplished by tinkering with bureaus. Even the savings that would come from a reduction in the army and navy and from limiting aid from the Veterans' Bureau to those who deserve it would be swallowed up by the new obligations which the federal government must assume as a result of the collapse of our industrial system.

Take the case of public education alone. The principal difficulty that our schools have had to face until this depression has been the tremendous increase in the number of pupils. This has been caused by the advance of the legal age for going into industry and the impossibility of finding a job even when the legal age has been reached. In view of the technological improvements in the last few years, business will require in the future proportionately fewer workers than ever before.

The result will be still further elevation of the legal age for going into employment and still further difficulty in finding employment when that age has been attained. If we cannot put our children to work, we must put them in school.

We may also be quite confident that the present trend toward a shorter day and a shorter week will be maintained. We have developed and shall continue to have a new leisure class. Already the public agencies for adult education are swamped by the tide that has swept over them since the depression began. They will be little better off when it is over. Their support must come from the taxpayer.

It is surely too much to hope that these increases in the cost of public education can be borne by the local communities. They cannot care for the present restricted and inadequate system of public education. The local communities have failed in their efforts to cope with unemployment. They cannot expect to cope with public education on the scale on which we must attempt it. The answer to the problem of unemployment has been federal relief. The answer to the problem of public education must be much the same.

And properly so. If there is one thing in which the citizens of all parts of the country have an interest, it is in the decent education of the citizens of all parts of the country.

Upon this common interest rests the whole theory of our popular institutions. Our income tax now goes in part to keep our neighbors alive. It must go in part as well to make our neighbors intelligent. We are now attempting to preserve the present generation through federal relief of the destitute. Only a people determined to ruin the next generation will refuse such federal funds for public education as may be required.

Federal assistance to public education will not, of course, lighten the burden of the states and local communities. Their educational expenditures will increase, too. If, in an emergency like the one we are enjoying in Chicago, it is necessary to reduce them temporarily, there is one way to do it and only one. Let the duly constituted representatives of the community determine how much it can afford to spend on education. Then give the educational administration authority to determine what specific changes and reductions should be made to bring expenditures within income.

I am willing to concede, therefore, that the total sum which any community may be able to spend on public education this year or next may have to be reduced. If so, the community should determine how much it can spend, the educational administration should determine the manner of spending.

But by this concession I do not mean to imply that I think even a temporary reduction in educational expenditures is a good thing. In so far as economy means efficiency it is of course beneficial. Economy may mean that to other governmental agencies. It may mean that to certain school systems if it can eliminate the expenditures forced upon the schools by politicians seeking jobs for their friends.

But in general the schools of America are undernourished rather than too

richly fed. For years we have been struggling to secure a decent salary level for teachers. We have done this, not because we are sentimental about teachers, but because we have realized dimly the importance of education and have tried to get intelligent people to go into it as their life-work.

Now, the easy way to save money is to reduce salaries. It requires no thought, no effort, no reorganization. It can be done by anybody who understands the rudiments of arithmetic.

But it is, in my opinion, the stupidest and most short-sighted means of cutting the costs of education. We wish to make the teaching profession attractive by adequate and secure compensation. We shall never have a respectable educational system until we have accomplished this aim.

We defeat this aim if we reduce salaries. And in addition we miss the only advantage of this depression, the opportunity to increase efficiency through housecleaning and reorganization, the opportunity in short to give better education at lower cost. A policy of salary reduction will indeed produce a lower cost; it will produce also a poorer education, now and in the future.

This country is still the richest in the world. For the things it ought to have it can well afford to pay. But it cannot get the money through an antiquated and iniquitous taxing system. As long as the preposterous general property tax is the chief source of local revenues, we shall be unable to meet the demands which our civilization inevitably places on local governments. As long as a person who does not own real estate but has an excellent income may make no contribution whatever to the support of these units, while the farmer, who owns real estate but gets no income at all, sees his property sold for taxes, we may expect to hear that the cost of government must be reduced.

The general policy advocated by President Hutchins with respect to the support of public education is sound, and its adoption is inevitable unless there is to be a fundamental change in the nature of American society. The fact is that the expansion of American education during the past few decades has been brought about by certain social and economic changes in American life over which the school people themselves have had very little control.¹ Taxpayers may be able temporarily to reduce school expenditures, but the public will soon discover that the services which it requires of the schools cannot be rendered without an increased expenditure of funds

CHILD LABOR AND SCHOOL ATTENDANCE

During the past two decades there has been a marked tendency in this country to close the doors of industry to children and young

¹ For a discussion of these changes the reader is referred to an editorial published in the *Elementary School Journal* in December, 1931, on pages 248-50

persons. The rapid expansion of industry during the last quarter of the nineteenth century resulted in the gainful employment of a considerable percentage of the children between the ages of ten and fifteen. By 1910, however, industry seems to have discovered that the employment of young children was no longer profitable. Moreover, the operation of compulsory-education and child-labor legislation has been such as to reduce the number of children gainfully employed. In practically all the states the age at which children may enter industry has been raised within the past two decades, and compulsory-education laws require that children attend school for a longer period than formerly.

The extent to which the employment of young children in this country has declined since 1910 may be seen from the following table.

PERCENTAGE OF CHILDREN TEN TO FIFTEEN YEARS
OF AGE EMPLOYED IN ALL OCCUPATIONS*

Census Year	Percentage Employed
1880..	16.8
1900..	18.2
1910..	18.4
1920..	8.5
1930..	4.7

* The data for the years 1880 to 1920 are taken from *Children in Gainful Occupations at the Fourteenth Census of the United States*, p. 12, Washington: Bureau of the Census, Department of Commerce, 1924. The data for 1930 are from a news release of the National Child Labor Committee.

Moreover, in recent years a marked decline in the employment of children at the upper age levels has taken place. In 1920, for example, 44.7 per cent of the children sixteen and seventeen years of age were employed, whereas in 1930 only 31.7 per cent of the children in this age group were employed.

It is obvious, of course, that the exclusion of children from industry has been one of the causes of the rapid expansion of American education. The schools have been forced to adjust their program to meet the needs of those young persons who could not be absorbed into industry. The result has been not only an expanded enrolment but an enriched curriculum. With the rapid advance of technology, young persons will, in all probability, find it increasingly difficult to secure employment. The school is the one institution which soci-

ety may employ to safeguard its youth in a period of rapid economic and industrial reorganization.

UNWISE REDUCTIONS IN EXPENDITURES FOR TEXTBOOKS

The following statement was published in the *United States Daily*.

While school budgets generally throughout the country have sustained reductions during the last year, this has been especially marked in the budgets for textbooks, ranging in this field about 20 per cent below normal, according to an oral statement October 18 by Dr. William John Cooper, Commissioner of Education, Department of the Interior.

Warning against extreme cutting of available funds for the purchase of books was given by Dr. Cooper, who pointed out that though budgets for other school necessities are but 8 to 10 per cent below normal, those for textbooks are practically double this reduction.

The Commissioner emphasized the essential part played by the textbook in the schools and the danger to be found in restricting it in too great proportion. "Schools will have to begin immediately to provide more money for textbooks," he said, "and to discontinue their reductions in that field.

"Schools have been cutting their textbook budgets to such an extent that they are finding a supply only of old books on their hands," he continued. "Such books are not only disheartening to the pupils but also are discouraging to use, with, perhaps, a page gone here and a map gone there. It is apparent that the schools cannot continue to cut funds for this item and will have to pick up again in their expenditures for texts."

Dr. Cooper pointed out that not a great saving can be accomplished by cutting the budget for textbooks since they represent an item of only about 3 per cent of the total school expenditures. He stressed the handicap that restriction in this field brings about.

Normally budgets for textbooks are none too generous, he stated, and by extreme reduction the work of teachers is seriously hampered and educational benefit is being taken away from the children which ordinarily they would get from their school attendance.

School boards, the Commissioner of Education continued, have the duty of seeing that no "penny-wise, pound-foolish" policy is carried out and of seeing that the teacher, who today because of inability of the boards to increase the personnel is carrying an added "pupil" load, is provided with adequate books to carry on instruction. The need under these circumstances is for more school books, he said, so that the pupils may do more of their work with less direction.

IMPLIED AUTHORITY OF BOARDS OF EDUCATION TO EMPLOY NURSES, DENTISTS, AND PHYSICIANS

In a recent case decided by the Court of Appeals of Kentucky (*Board of Education of Bowling Green v. Appeal from Warren Circuit*

Court), it was held that the Board of Education of Bowling Green had the implied authority to employ a school nurse "to inspect the children in the public schools of the city, their physical health and conditions, and to confer with their parents confidentially in regard to the physical or other defects that interfered or threatened to interfere with their school work." The statute governing the case provided that the board should "have power to expend all moneys in the interest of the public schools of the city." The following paragraphs are quoted from the opinion of the court.

The quoted clauses of Sec. 3474 and 3478 grant plenary power to the board of education to appropriate the school funds of the city for whatsoever purpose that may be deemed by it, in its sound discretion, to be for the interest of the public schools. The power so conferred upon it is abridged by Sec. 3478 Ky. Statutes, to the extent that it declares the school funds "shall be dedicated to the use of the public schools." In its intendment, Sec. 3474 is identical with the limitation imposed by Sec. 184 of the constitution. Both the statutory grant of power and this limitation upon its power govern the board when it determines an object or purpose for which an appropriation is made by it, and such appropriation, where it is made for an object or purpose not named in the statutes, must be for one which is, both in fact and in law, for the interest of the schools of the city. It may be, however, for an actual necessity or indispensable purpose, or it may be for one which is an ameliorative aid, but not indispensable, to the interest of the public schools. An example of the latter is a cafeteria (*Goodman v. School Dist. No. 1*, 32 Fed. [2] 586), or a gymnasium (*McNair v. School Dist.*, 288 Pac. 188). . . .

The object or purpose of an appropriation when made by the board, if not one expressly named in the statutes, must be one reasonably and necessarily germane to the interest of the schools. The purchase of basket-ball suits to loan to the pupils on the team is an example of the expenditure of school funds not in the interest of the schools (*Brim v. Cambridge*, 164 N.E. [Mass.] 619). . . .

The constitution and the statutes charge the board of education of the city with the duty to maintain an efficient system of public schools within the city, and the clauses of the sections *supra* expressly empower it to expend the school funds "in the interest of the public schools." Clearly, the language of these sections was intended to vest in it power to make appropriations of the school funds for the accomplishment of a purpose, other than those specifically named in the statutes. Such expressed statutory power to appropriate the school funds "in the interest of the public schools" necessarily includes the exercise of the implied power reasonably incidental and indispensable to the proper exercise of the power so expressly conferred upon it to the accomplishment of the object to be attained. . . .

Considering the inexorable duty of the schools to supervise, to guide and di-

rect, to guard and protect, the health and physical growth and development of all of the pupils, and of the magnitude of the needs of the service of nurse and a teacher of health and physical education, in connection with the schools of the city, and the purpose of the existence of the schools, together with our general knowledge of the common diseases which generally affect school children, and the communicability, frequency, and recurrence of these diseases, and their serious and ill effects, when prevailing, we are convinced, and it is our conclusion that the creation of the position of nurse and teacher of health and physical education, and the employment thereof as set out in the order of the board, were, in fact and in law, for the interest of the schools of the city.

The position taken by the Kentucky court is supported by every case in which the same issue has been involved.¹ Clearly, boards of education may, even in the absence of any specific statutory grant of authority, employ nurses, dentists, and physicians provided the services to be performed are merely inspectorial and diagnostic. It has been held, however, that a school board cannot, without specific statutory authority, spend public funds for purposes of remedial treatment.²

DEAN CUBBERLEY'S RETIREMENT

Dean Ellwood P. Cubberley, of the School of Education of Leland Stanford University, has announced his retirement from active service at the close of the present academic year. A committee composed of Dean Cubberley's associates, former students, and friends throughout the country plan a celebration in his honor next spring. The committee will publish a commemorative volume of essays, written by leaders in education, and plans to establish at Leland Stanford University a lectureship similar to the Inglis lectureship at Harvard University.

It is especially fitting that Dean Cubberley's services to the cause of education be commemorated in this way. As administrator and scholar, Dean Cubberley has vitally influenced the development of American education. Since 1898 he has been dean of the School of Education at Leland Stanford University, and under his administration that institution has developed into one of the leading centers of educational research in the country. As a scholar, Dean Cubberley's

¹ See *State v. Brown*, 112 Minn. 370, 128 N.W. 294; *Hallett v. Post Printing and Publishing Co.*, 68 Colo. 573, 192 Pac. 658, *City of Dallas v. Mosely*, 286 S.W. (Tex.) 497.

² *McGilvra v. Seattle School District No. 1*, 113 Wash. 619, 194 Pac. 817.

interests have been varied. As everyone who is at all acquainted with American education knows, he has long been an authority in the fields of school administration and the history of education. He has directed or assisted in making a number of public-school surveys; he has advised legislative commissions in California, New Mexico, and Washington; and he has served as editor of the well-known Riverside textbooks in education.

Dean Cubberley's retirement from active administrative service does not mark an end of his work as a scholar. He plans, indeed, to carry forward even more vigorously his program of investigation and writing. His friends everywhere will wish for him many years of continued service to the cause of education.

SALT LAKE CITY'S EXPERIMENT WITH A SHORTENED EDUCATIONAL PROGRAM

George N. Child, superintendent of schools of Salt Lake City, Utah, makes the following statement in his annual report for 1930-31 with respect to the success of the eleven-year educational program with which that city has been experimenting for some time.

In previous reports some attention has been given to the reorganization of the schools in Salt Lake City, involving the elimination of one year for the majority of students in their progress from kindergarten to graduation from high school. It has now been two years since our first class graduated from high school under this new plan. In June, 1929, a group graduated from what is frequently called the eleven-year program and another from the traditional twelve-year program. Students from both these classes entered the University of Utah in large numbers in the autumn of 1929. They entered without any handicap or advantage in either group, so far as the University management and faculty were concerned, which means that each individual student was placed on his merit in carrying on his studies at the University. The accompanying tabulation shows the average scholastic standing of each group by quarter based on the marks turned in by the professors at the University.

The purpose of the change from a twelve- to eleven-year program above the kindergarten was, of course, in the interests of saving time and money without lowering the standards of scholarship of the graduates from high school.

A careful study of several school systems in the United States and Canada with this shortened program and the results obtained in comparison with the other system on the traditional program of twelve years, convinced school executives and the local Board of Education that this saving could be made. The records in the University show that the graduates of high schools in Salt Lake City rate considerably above the average of all Freshman students in the institution.

It is encouraging to note also that the students who graduated from the eleven-year course average a little above the group graduating from the twelve-year course, indicating that standards of scholarship were adequately maintained in the first class which graduated under the new plan.

While the evidence given in the reports is encouraging to our plan of saving time and money, it must not be regarded as conclusive. Neither does it tell us that more and better work can be done in eleven years than in twelve years. It does, however, give us good and substantial reason for concluding that eleven-year students in our system with a ten-months school year in a well-organized and equipped school can, by means of curriculum revision, improved methods, and better habits of accomplishment, adequately prepare for success in college, fully up to the prevailing standards.

QUARTER	11-YEAR GRADUATES		12-YEAR GRADUATES	
	Number	Ratio*	Number	Ratio*
1929-30:				
Autumn . .	173	1.18	306	1.13
Winter . .	163	1.36	274	1.31
Spring . .	153	1.31	259	1.27
1930-31:				
Autumn . .	139	1.43	221	1.35
Winter. . .	130	1.50	212	1.48
Spring. . . .	128	1.51	197	1.45

* The ratio is the index of scholarship used by the University of Utah.

It is significant to note that while the younger graduating group made an excellent record in the University during the six quarters since its entrance, the group shows also a higher percentage of continuance in school. In other words, the eleven-year group shows a lower percentage drop-out on account of low marks or other discouraging conditions.

While the new plan of the Salt Lake City schools may still be regarded as experimental, it is not novel, for it has been tried out and is the practice in many excellent school systems both in the United States and Canada. Moreover, nearly all the evidence that we have been able to gather locally, as well as from outside sources, gives encouragement to its final success both educationally and financially.

The saving of time and money of the shortened course in no way passes the burden of responsibility from the city to the state since those who attend the University will graduate from that institution a year earlier, spending no more time in the higher institution for graduation than they would have spent had they graduated from high school a year later. If these young people are successful, and the records now indicate that they are, they will get out of school a year earlier and therefore enter productive life one year in advance of the time which would have been normally required in the longer course.

REGULATION OF PRIVATE SCHOOLS IN NEW YORK

The state of New York has adopted a new policy with respect to the control of private schools. The following statement describing this new policy is quoted from the *New York Sun*.

Under new regulations of the Board of Regents private schools must meet definite standards as regards their financial standing, the qualifications of their teachers, the scope of their curriculum, and the condition of their building and physical equipment. Instruction in the common branches must be in English.

The new rules are as follows, according to a bulletin of the State Education Department:

a) The financial circumstances of the school shall be such that there is reasonable prospect of the school's being able to maintain and improve its present approved educational program for a period of at least five years.

b) The qualifications of the teaching staff shall be approximately equivalent to the qualifications required of teachers occupying similar positions in the public schools.

c) The curriculum shall include "at least the ten common-school branches of arithmetic, reading, spelling, writing, the English language, geography, United States history, civics, hygiene, and physical training." All instruction in these subjects shall be in English. The organization and time allotment of subject matter shall be evaluated in terms of the purpose of the school and the achievement and educational growth of its pupils.

d) Such schools shall be in session approximately the same number of days as public schools are in session; and the portion of the school day devoted to those subjects required to be taught in English shall be approximately the same as in the corresponding public schools or classes. (A shorter school year or a shorter school day, or both, may be approved when there is adequate evidence that the instruction is "substantially equivalent in amount and quality" to that provided by the public schools.)

e) The building, site, equipment, and playground shall meet the standards acceptable for public elementary schools.

f) The library, teaching equipment, and supplies shall be equivalent in quality and quantity to those in use in the public schools of the district in which the school is located.

TRAINING AND EXPERIENCE OF ELEMENTARY-
SCHOOL PRINCIPALS

The United States Office of Education has recently published a leaflet entitled *Elementary School Principals: Some Data on Their Education, Experience, and Salaries*. The data reported were gathered by the National Survey of the Education of Teachers.

The Department of Elementary School Principals of the National

Education Association in its Seventh Yearbook recommended that the standard preparation of elementary-school principals should be "four years of college plus a graduate year with a major in education." If such a standard be proper, it is evident from the data in the leaflet that elementary-school principals as a class have not had adequate academic and professional training. The accompanying table, for example, reveals that only 60.7 per cent of men principals and 31.0 per cent of women principals have had four years or more of college work. Moreover, only 32.84 per cent of the men principals and 11.50 per cent of the women principals have had one year or more of graduate work. It is somewhat surprising, too, to learn that 2.5 per cent of the men and 6.4 per cent of the women principals have not had more than a high-school education.

PERCENTAGES OF PRINCIPALS WHO REPORTED
HAVING HAD FOUR OR MORE YEARS
OF COLLEGE WORK

	Men	Women
Open country.....	29.4	15.0
Villages of less than 2,500..	36.6	21.4
Cities of 2,500-9,999....	54.8	22.0
Cities of 10,000-99,999..	68.8	25.9
Cities of 100,000 or more..	85.1	48.1
Total	60.7	31.0

The following statement summarizes the data with respect to the experience of elementary-school principals.

The length of experience of elementary-school principals given . . . includes teaching experience. As would be expected, the number of years of experience increases with the size of the community, the median ranging from 8 years in the open country to 28 years in cities having a population of 100,000 or more. The median for all principals reporting is 22 years, which is slightly less than that given in the Seventh Yearbook of the Department of Elementary School Principals. This is, doubtless, owing to the fact that the study made by that department did not include principals in very small communities.

No data were collected by the National Survey of the Education of Teachers to show the number of years of experience as elementary-school principal. The data presented in the Seventh Yearbook show that the median experience as elementary-school principal for all cities is about ten years, that the lower quartile is five years, and the upper quartile about eighteen years.

THE ELLA VICTORIA DOBBS FELLOWSHIP
FOR RESEARCH IN EDUCATION

The Pi Lambda Theta, honorary fraternity for women in education, makes the following announcement with regard to the award of a research fellowship.

Pi Lambda Theta offers a fellowship available during the school year 1933-34 to a woman who wishes to devote herself to research in education. This fellowship is to be known as the Ella Victoria Dobbs Fellowship of Pi Lambda Theta. It carries a stipend of \$1,000, \$900 of which will be paid in two equal amounts. One hundred dollars will be due when the final obligations have been met.

Qualifications.—The candidate for this research fellowship shall have, at the time of her application, at least the degree of Master of Arts from a graduate school of recognized worth. In addition she shall have shown notable skill in teaching and significant accomplishment in research, and she shall have definite plans for further research.

Obligations.—The acceptance of the fellowship implies the obligation on the part of the scholar to devote herself unreservedly to study or research as outlined in her application; to submit any proposed change in her plan to the chairman for approval; and to send to the chairman at least two reports of her work, the first, not later than January 15, giving a statement of her work which will satisfy the committee that she is pursuing the research indicated in her application. The second report shall be made upon the completion of her year's work. This latter report shall be in printed form as previously agreed upon with the committee.

The committee regards the acceptance of the fellowship as creating a contract requiring the fulfilment of these conditions.

Applications.—Each applicant should submit: (a) a record of her formal education, (b) a record of her professional activities, (c) evidence of previous research, (d) a physician's statement concerning her health, (e) a list of the persons whom she has asked to write directly to the secretary in support of her application. Among those asked to write shall be two women who will send to the committee a careful, confidential judgment of the personality of the applicant.

Theses, papers, and letters submitted by the applicants will be returned if postage is sent for the purpose. Confidential letters sent to the committee will not be returned.

A personal meeting with a member of the committee will be of great advantage.

Applications must be made on a blank form which will be supplied on request by the secretary of the Committee on Award, Maude McBroom, State University of Iowa, Iowa City, Iowa. This blank must be filled out and submitted with all supporting papers and letters not later than January 1, 1933. All material and inquiries should come to the secretary and not to the chairman or other members of the committee.

THE LAW GOVERNING THE DISMISSAL OF TEACHERS. I

NEWTON EDWARDS
University of Chicago

COMMON-LAW RIGHT TO DISMISS TEACHERS

It is well settled that school teachers are not public officers; they are employees.¹ Such rights as they have to compensation grow out of the contractual relationship. If, therefore, the statutes make no provision for the dismissal of teachers, there exists in the employing agency an implied power to dismiss a teacher for good and sufficient cause.² Thus, it was said by the Supreme Court of Indiana: "It does not follow that, because the school trustees in incorporated towns and cities are not authorized by statute to dismiss teachers, they have no power or authority to do so, when there is a valid reason for such dismissal."³

STATUTORY RIGHT OF DISMISSAL AT DISCRETION OF THE SCHOOL BOARD

School authorities may, of course, dismiss teachers for such causes and in such manner as prescribed by statute. It is a well-established rule, of which teachers should be cognizant, that all pertinent provisions of the statutes are by implication read into contracts of

¹ *Board of Education v. Bacon*, 22 Ga. App. 72, 95 S.E. 753; *People v. Board of Education*, 3 Hun. (N.Y.) 177; *Swartwood v. Walbridge*, 10 N.Y.S. 862, 31 N.Y. St. Rep. 757; *School District No. 23 v. McCoy*, 30 Kan. 268, 1 Pac. 97, 46 Am. St. Rep. 92; *State v. Blied*, 188 Wis. 442, 206 N.W. 213; *State v. Smith*, 49 Neb. 755, 69 N.W. 114. Contra, *Morley v. Power*, 5 Lea (73 Tenn.) 691.

² *Tadlock v. School District No. 29*, 27 N.M. 250, 199 Pac. 1007; *Freeman v. Town of Bourne*, 170 Mass. 289, 49 N.E. 435, 39 L.R.A. 510; *Crawfordsville v. Hays*, 42 Ind. 200; *Wallace v. School District No. 27*, 50 Neb. 171, 69 N.W. 772; *Bays v. State*, 6 Neb. 167; *Curkett v. Joint School District No. 2*, 159 Wis. 149, 149 N.W. 708; *Foreman v. School District No. 25*, 81 Ore. 587, 159 Pac. 1155; *School District of Fort Smith v. Maury*, 53 Ark. 471, 14 S.W. 669.

³ *Crawfordsville v. Hays*, 42 Ind. 200.

employment.¹ Thus, it was said by Mr. Justice Harris, speaking for the Supreme Court of Oregon:

The contract of teaching is made with reference to the provisions of the statute, so that the contractual obligations of the teacher are not necessarily limited to the words found in the written contract, and therefore the contract of teaching includes not only the duties enumerated by the written paper, which for convenience is called the contract, but it also embraces those duties which are imposed under a then-existing statute; and if the teacher breaches this contract of teaching, one of the ordinary legal remedies available to the school board, unless some statute declares to the contrary, would be found in the right summarily to discharge the teacher.²

Where, therefore, the employing agency is authorized by statute to dismiss a teacher at pleasure, a teacher may be dismissed without cause and without an opportunity to be heard in his defense.³ Not only that, the employing agency cannot by contract divest itself of the statutory right to dismiss a teacher at pleasure.⁴ Thus, it was said in the leading case of *Gillan v. Board of Regents*:⁵

This power of summary removal of a teacher, vested in the board by statute, is a discretionary power, and its exercise in a given case cannot be inquired into or questioned by the courts. . . . This statute that gives the board the power of removal of all teachers at pleasure becomes a part of every contract the board makes with a teacher for his employment in a normal school. . . . The board of regents could make no by-law or contract by which this power could be bargained away, limited, or restricted.

¹ *Gillan v. Board of Regents*, 88 Wis. 7, 58 N.W. 1042, 24 L.R.A. 336; *Jones v. Nebraska City*, 1 Neb. 176; *Marvey v. Board of Trustees*, 187 Ky. 729, 220 S.W. 732; *Weidman v. Board of Education*, 7 N.Y.S. 309, 54 Hun. 634; *Everett v. Fractional School District No. 2*, 30 Mich. 249.

² *Foreman v. School District No. 25*, 81 Ore. 587, 159 Pac. 1155.

³ *Gillan v. Board of Regents*, 88 Wis. 7, 58 N.W. 1042, 24 L.R.A. 336; *The Queen v. Governors of Darlington School*, 6 Q.B. (Adolphus and Ellis, N.S.) 682; *Jensen v. Independent Consolidated District No. 85*, 160 Minn. 233, 199 N.W. 911; *Jones v. Nebraska City*, 1 Neb. 176; *Weidman v. Board of Education*, 7 N.Y.S. 309, 54 Hun. 634; *Dunaway v. Board of Education*, 47 Hun. (N.Y.) 13; *People v. Board of Education*, 142 N.Y. 627, 37 N.E. 565.

⁴ *Gillan v. Board of Regents*, 88 Wis. 7, 58 N.W. 1042, 24 L.R.A. 336; *The Queen v. Governors of Darlington School*, 6 Q.B. (Adolphus and Ellis, N.S.) 682; *Jensen v. Independent Consolidated School District No. 85*, 160 Minn. 233, 199 N.W. 911; *Weidman v. Board of Education*, 7 N.Y.S. 309, 54 Hun. 634; *Collins v. City of Lewiston*, 107 Me. 220.

⁵ *Gillan v. Board of Regents*, 88 Wis. 7, 58 N.W. 1042, 24 L.R.A. 336.

AUTHORITY OF SCHOOL BOARDS TO RESERVE IN CONTRACTS
THE RIGHT TO DISMISS TEACHERS AT PLEASURE

In a number of jurisdictions courts have been called on to determine whether a school board, in the absence of statutory authority, may reserve in a contract with a teacher the right to dismiss the teacher at pleasure or upon specified notice. A board may attempt to reserve this right either in the express contract or in the rules and regulations of the board, for it is well settled that all reasonable rules and regulations of a school board defining the relation of the board to its teachers become by implication a part of a teacher's contract.¹

Some courts hold that school authorities may reserve by contract the right to dismiss teachers at pleasure or upon such notice as the parties may stipulate in the agreement.² In a Missouri case,³ for example, the Board of Education of St. Louis dismissed a teacher because his wife, against whom he had brought action for divorce, accused him of adultery. A by-law of the school board provided that teachers should hold their positions for a year "unless sooner removed by a vote of the majority of the board." The by-law, the court reasoned, became a part of the teacher's contract. Therefore, the board could dismiss the teacher whenever in their opinion the best interests of the schools demanded that he be dismissed. Similarly, in a Tennessee case⁴ the Board of Education of Chattanooga adopted a rule that teachers should hold their positions "during the pleasure of the board." A teacher was discharged because the board lacked funds to carry on the work for which he was engaged. When

¹ *McLellan v. Board, etc. of St. Louis Public Schools*, 15 Mo. App. 362; *Weatherly v. Chattanooga*, 48 S.W. (Tenn.) 136, *Board of Education v. Cook*, 3 Kan. App. 269, 45 Pac. 119.

² *Dees v. Board of Education*, 146 Mich. 64, 109 N.W. 39; *Derry v. Board of Education*, 102 Mich. 631, 61 N.W. 61; *Richardson v. School District No. 10*, 38 Vt. 602; *McLellan v. Board, etc. of St. Louis Public Schools*, 15 Mo. App. 362; *Weatherly v. Chattanooga*, 48 S.W. (Tenn.) 136; *Armstrong v. Union School District No. 1*, 28 Kan. 345; *Brown v. School District No. 41*, 1 Kan. App. 530, 40 Pac. 826, *School District No. 5 v. Colvin*, 10 Kan. 283; *School District No. 94 v. Gautier*, 13 Okla. 194, 73 Pac. 954; *Argenta Special School District v. Strickland*, 152 Ark. 215, 238 S.W. 9; *Olney School District v. Christy*, 81 Ill. App. 304; *Miner v. Lovilia Independent School District*, 234 N.W. (Ia.) 817.

³ *McLellan v. Board, etc. of St. Louis Public Schools*, 15 Mo. App. 362.

⁴ *Weatherly v. Chattanooga*, 48 S.W. (Tenn.) 136.

he sued for his salary, the board relied in its defense upon the rule authorizing it to dismiss teachers at pleasure. The court held that the rule of the board became incorporated into the contract. Consequently, the teacher was "subject to be discharged at the discretion of the board whenever in the exercise of its judgment, public necessity or convenience required it."

It seems clear, however, that a board of education cannot act arbitrarily even though the right to dismiss a teacher at will is reserved in the contract. Under all circumstances a board, in dismissing a teacher, must act in good faith and not from mere passion, prejudice, or caprice.¹ In fact, some authority exists for the statement that a board of education cannot dismiss a teacher except for cause even though the right to dismiss at will is reserved in the contract. In the case of *Board of Education v. Cook*,² for example, a teacher's contract provided that she should hold her position for one year "unless sooner removed by vote of the board." The court said, in interpreting the contract:

What, then, is the construction to be given to the words, "unless sooner removed by vote of the board"? Do they mean that the board may arbitrarily remove the teacher by vote, without any fault upon her part, and for no other reason than because it is the pleasure of the members of the board to do so? Or, do they mean that it may remove her for good cause? There is no statute which prescribes the causes for which the board of education of a city of the second class may remove a teacher; neither is there any rule or regulation prescribed by this board in which such causes are enumerated. The contract was for the ensuing school year, "unless sooner removed by vote of the board." This does not specify the causes for which she may be removed. The board could not, therefore, legally remove Miss Cook, by a vote, except for sufficient cause; and the question was properly submitted to the jury as to whether there was sufficient cause for removal.

While some courts hold that a school board may reserve in a contract with a teacher the right to dismiss the teacher at pleasure or in case the teacher fails to give satisfaction, there are other decisions to the effect that school authorities cannot legally write into a teacher's contract a provision reserving the right to dismiss the teacher at pleasure.³ These latter decisions, in the opinion of the writer, express

¹ *School Directors v. Ewington*, 26 Ill. App. 379.

² *Board of Education v. Cook*, 3 Kan. App. 269, 45 Pac. 119.

³ *Tripp v. School District No. 3*, 50 Wis. 651, 7 N.W. 840; *Henry School Township v. Meredith*, 32 Ind. App. 607, 70 N.E. 393; *Sarle v. School District No. 27*, 255 Pac. (Ariz.) 994; *Public School District No. 11 v. Holson*, 31 Ariz. 291, 252 Pac. 509.

the correct rule of law. A school district, it should be remembered, is a corporation of very limited powers. Such powers as it possesses are derived from the statutes. If the statutes do not confer the right to make contracts with teachers which are terminable at the pleasure of the board, no such right should be inferred. The interests of the district are adequately protected by the common-law right to dismiss a teacher for sufficient cause. Moreover, teacher tenure is an important matter of public policy. That the best interests of the schools will not be served by permitting local school authorities to employ teachers subject to dismissal at pleasure seems perfectly clear.

The case of *Tripp v. School District No. 3*¹ illustrates the reasoning of those courts which hold that local school authorities cannot by contract reserve the right to dismiss teachers arbitrarily. In that case the school-district board had written into a teacher's contract the following words: "We reserve the right to close the school at any time if not satisfactory to us." The board became dissatisfied with the school, closed it, and dismissed the teacher. The court, however, permitted the teacher to recover her salary for the whole term of the contract. It said:

The judgment [of the lower court] clearly proceeds upon the ground that under the contract the board could close the school and lawfully discharge the teacher before her term of hiring expired, if they were dissatisfied with her management of the school. . . . Certainly no such power is expressly conferred upon district school boards by the statutes, and we do not think that the good order, efficiency, or usefulness of the common schools of the state would be promoted by holding that such power was conferred upon them by implication or by a liberal construction of the statutes in their favor

Where the statutes prohibit the dismissal of teachers except for cause, a school board cannot, of course, reserve in a contract for a definite term the right to dismiss at pleasure.² Where the statutes provide that teachers may be dismissed for certain specified causes, some courts hold that the school authorities cannot reserve in a teacher's contract the right to dismiss the teacher at will or the right to dismiss him if his services are unsatisfactory.³ The case of *Thomp-*

¹ *Tripp v. School District No. 3*, 50 Wis. 651, 7 N.W. 840.

² *School District No. 3 v. Hale*, 15 Colo. 367, 25 Pac. 308; *Kennedy v. Board of Education*, 82 Cal. 483, 22 Pac. 1042.

³ *Thompson v. Gibbs*, 97 Tenn. 489, 37 S.W. 277, 34 L.R.A. 548; *Frazier v. School District No. 1*, 24 Mo. App. 250; *Sarle v. School District No. 27*, 255 Pac. (Ariz.) 994; *Public School District No. 11 v. Holson*, 31 Ariz. 291, 252 Pac. 509.

*son v. Gibbs*¹ illustrates the reasoning of these courts. In that case a contract containing the usual stipulations had stamped across its face the following words: "The directors reserve the right to annul all contracts every fourth month." At the end of four months, without giving any excuse for their action, the directors notified the teacher that his services were no longer required. The statute governing the case provided that teachers might be dismissed for incompetency, improper conduct, or inattention to duty. The court held that the right of dismissal was limited to the causes specified in the statutes and said in part:

If public directors can legally import into their contracts of employment of public teachers a clause such as the one in question, this case illustrates the wrong and injustice which may be done under cover of law. . . . But, independently of the injury that may be done to the individual, public policy would forbid the recognition of such a power unless it is distinctly conferred by the statutes. As has been well urged, if school directors can provide, as in this case, for annulling contracts at the end of four months, they can also reserve the right to terminate them at the end of one month, or at their own pleasure. . . . A system which gave such arbitrary authority to school directors could not result otherwise than in lowering the character of teachers and in demoralizing the public schools. . . . To permit school directors, under the cover of a reservation, such as the one in question, to dismiss a teacher without charges or notice or testimony, would be to approve an evasion of this statute . . . and to tolerate a practice that would be, in the end, extremely hurtful to our common-school system.

In some jurisdictions, on the other hand, it has been held that school authorities may by contract reserve the right to dismiss teachers for other causes than those stipulated in the statutes.² In the case of *School District No. 5 v. Colvin*³ a contract with a teacher provided that he might be dismissed at any time if he failed to give satisfaction to the board. The statute governing the case provided that teachers might be dismissed for "incompetency, cruelty, negligence, or immorality." The teacher failed to give satisfaction and was discharged. The court sustained the action of the school board, saying in part:

¹ *Thompson v. Gibbs*, 97 Tenn. 489, 37 S.W. 277, 34 L.R.A. 548.

² *School Directors v. Ewington*, 26 Ill. App. 379; *Armstrong v. Union School District No. 1*, 28 Kan. 345; *School District No. 5 v. Colvin*, 10 Kan. 283; *School District No. 94 v. Gautier*, 13 Okla. 194, 73 Pac. 954.

³ *School District No. 5 v. Colvin*, 10 Kan. 283.

The law was made for the benefit of the district. It does not prevent the board from making any other contract with the teacher. In this case they have made one which is not prohibited either by law or public policy. No one doubts that a contract hiring a teacher might be abrogated by mutual consent. So they may stipulate in advance, as in this case, what shall put an end to the contract. That contingency arose, and the board, with the previous consent of the teacher, put an end to the contract. There seems to be no doubt but what that part of the contract was valid.

LEGAL CAUSE FOR DISMISSAL OF TEACHERS

Under the common law and under statutes generally, teachers can be dismissed only for cause. Where the statutes expressly state the causes for which teachers may be dismissed, a teacher, as a rule, can be dismissed for no other cause.¹ The assumption is that the enumeration of causes in the statutes was intended to be exhaustive. If the legislature had intended that teachers might be dismissed for causes other than those specified, it would have expressed its intent in the statutes. Thus, in a New York case² the charter of New York City provided for the dismissal of teachers for certain enumerated causes. In holding that the board of education could not, by adopting a rule, establish any other causes of dismissal, the court said:

We think that these statutory provisions are also necessarily exclusive. It is unreasonable to believe that the draftsmen of the Greater New York charter or the legislators who enacted it . . . having . . . provided in the charter for dismissal for specified causes, should have intended by the grant of any general power to the board of education to authorize the removal of teachers from their employment on any other grounds or in any other manner than those stated in the statute.

Some courts hold, however, that a school board may by contract reserve the right to dismiss a teacher for other than statutory causes,³ while other courts hold to the contrary.⁴

¹ *People v. Maxwell*, 177 N.Y. 494, 69 N.E. 1092, *Jameson v. Board of Education*, 74 W. Va. 389, 81 S.E. 1126; *Thompson v. Gibbs*, 97 Tenn. 489, 37 S.W. 277, 34 L.R.A. 548.

² *People v. Maxwell*, 177 N.Y. 494, 69 N.E. 1092.

³ *School Directors v. Evington*, 26 Ill. App. 379, *Armstrong v. Union School District No. 1*, 28 Kan. 345; *School District No. 5 v. Colvin*, 10 Kan. 283; *School District No. 91 v. Gantier*, 13 Okla. 194, 73 Pac. 954.

⁴ *Thompson v. Gibbs*, 97 Tenn. 489, 37 S.W. 277, 34 L.R.A. 548, *Frazier v. School District No. 1*, 24 Mo. App. 250.

DISMISSAL FOR FAILURE TO OBSERVE SCHOOL-BOARD REGULATIONS

A public-school teacher is bound to obey all reasonable rules and regulations of the board which employs him,¹ and it makes no difference whether the rules were in force at the date of his employment or were promulgated at a later date.² Rules governing the relations of a board with its teachers in force at the time of employment are by implication read into the contract.³ Moreover, a teacher impliedly consents to obey all reasonable rules and regulations which a board may find it necessary to adopt from time to time in the administration of the school system.⁴ All contracts are made in contemplation of the law, and a teacher impliedly consents to obey all rules which a board may legally make.

An illustration of the authority of school boards to enforce reasonable rules and regulations is found in a California case.⁵ The Board of Education of San Francisco adopted a resolution requiring teachers to reside within the city and county during the term of their employment. A teacher who resided across the bay in Berkeley brought action to enjoin the enforcement of the rule. The injunction was denied, the court saying in part:

In contemplation of the fact that the teacher stands *in loco parentis*, that it may become her duty to devote her time to the welfare of individual pupils even outside of school hours, that the hurrying for boats or trains cannot be regarded as conducive to the highest efficiency on the part of the teacher, that tardiness may result from delays or obstructions in the transportation which a non-resident teacher must use, and finally, as has been said, that the "benefit of pupils and resulting benefits to their parents and to the community at large, and not the benefit of teachers, is the reason for the creation and support of the public schools" (*Bates v. Board of Education*, 139 Cal. 145, 72 Pac.

¹ *Parker v. School District No. 38*, 5 Lea (Tenn.) 525; *Farrell v. Board of Education*, 122 N.Y.S. 289; *Stuart v. Board of Education*, 161 Cal. 210, 118 Pac. 712; *Leddy v. Board of Education*, 160 Ill. App. 187.

² *Farrell v. Board of Education*, 122 N.Y.S. 289.

³ *McLellan v. Board, etc. of St. Louis Public Schools*, 15 Mo. App. 362; *Weatherly v. Chattanooga*, 48 S.W. (Tenn.) 136; *Board of Education v. Cook*, 3 Kan. App. 269, 45 Pac. 119; *Underwood v. Board of Public Education*, 25 Ga. App. 634, 104 S.E. 90.

⁴ *Farrell v. Board of Education*, 122 N.Y.S. 289; *Whitehead v. School District of North Huntingdon Township*, 145 Pa. 418, 22 Atl. 991; *School District of Dennison Township v. Padden*, 89 Pa. St. 395.

⁵ *Stuart v. Board of Education*, 161 Cal. 210, 118 Pac. 712.

907), all these, and many more considerations not necessary to detail, certainly make the resolution in question a reasonable exercise of the power of the board of education. . . .

Nor can we agree with respondent that the resolution in question is the imposition of an additional "qualification" which a teacher must possess, which qualification is not within the power of the board of education to exact. True, section 1793 of the Political Code, in conjunction with 1791 thereof, does prescribe certain qualifications and give a list of causes and reasons for which teachers may be dismissed or removed, but a regulation concerning residence is not an added "qualification," within the contemplation of this law, any more than would be a resolution that a teacher should be free from contagious disease; and it would scarcely be said that, if the board of education passed a resolution to that effect, it would add another and an unlawful "qualification" to those prescribed by the Political Code. Nor does it matter in this case, as respondent argues, that the board of education has no power to dismiss a teacher except for the reasons prescribed by section 1793 of the Political Code. That section itself contemplates dismissal for insubordination and clearly a refusal of a teacher to comply with a reasonable regulation of the board would be such insubordination.

It has been held, too, that a teacher may be dismissed for refusal to comply with a regulation that teachers be vaccinated,¹ for refusal to obey a rule prohibiting the reading of the Bible in the schools,² and for refusal to readmit to the school a pupil whom he had expelled against the wishes of the board.³

On the other hand, if a board makes an unreasonable rule or a rule in excess of its authority, the teacher is not bound thereby. In the case of *Horne v. School District of Chester*⁴ the school board made it a condition of employment that a teacher board at a designated place. The teacher boarded at the place designated for five weeks and then informed the board that circumstances had arisen which made her unwilling to board there any longer. She asked to be permitted to board elsewhere but was told that she must board at the home selected if she was to remain in charge of the school. She refused to carry out the board's wishes in the matter and was dis-

¹ *Lyndall v. High School Committee*, 19 Pa. Sup. Cl. 232.

² *New Antioch Board of Education v. Pulse*, 7 Ohio N.P. 58.

³ *Parker v. School District No. 38*, 5 Lea (Tenn.) 525; *Laddy v. Board of Education*, 160 Ill. App. 187.

⁴ *Horne v. School District of Chester*, 75 N.H. 411, 75 Atl. 431.

charged. In permitting the teacher to recover for breach of contract, the court said:

The rule of the board as to the teacher's boarding-place related to a matter as to which they were given no authority by existing law. . . . Their refusal, therefore, to permit the plaintiff to continue the school with a different boarding-place was unwarranted, and the plaintiff's determination to change her boarding-place did not authorize them to terminate her employment as teacher.

DISMISSAL FOR INCOMPETENCY

Under the common law and under the statutes generally, incompetency constitutes a valid cause for dismissal of a teacher. The rule governing the dismissal of teachers for incompetency has been clearly expressed by the Supreme Court of Indiana:

A teacher, doubtless, like a lawyer, surgeon, or physician, when he undertakes an employment, impliedly agrees that he will bestow upon that service a reasonable degree of learning, skill, and care. When he accepts an employment as teacher in any given school, he agrees, by implication, that he has the learning necessary to enable him to teach the branches that are to be taught therein, as well as that he has the capacity, in a reasonable degree, of imparting that learning to others. He agrees, also, that he will exercise a reasonable degree of care and diligence in the advancement of his pupils in their studies, in preserving harmony, order, and discipline in the school; and that he will himself conform, as near as may be, to such reasonable rules and regulations as may be established by competent authority for the government of the school. . . .

Now, if a teacher, although he has been employed for a definite length of time, proves to be incompetent, and unable to teach the branches of instruction he has been employed to teach, either from a lack of learning, or from an utter want of capacity to impart his learning to others; or if, in any other respect, he fails to perform the obligations resting upon him as such teacher, whether arising from the express terms of his contract or by necessary implication, he has broken the agreement on his part, and the trustees are clearly authorized to dismiss him from such employment.¹

By the application of the principle stated in the foregoing opinion, it has been held that a teacher may be dismissed because he does not possess the requisite qualities of temper and discretion² or because he is unable to maintain proper order and discipline.³ A teacher can-

¹ *Crawfordsville v. Hays*, 42 Ind. 200.

² *Robinson v. School Directors*, 96 Ill. App. 604.

³ *Eastman v. District Township of Rapids*, 21 Ia. 590; *Biggs v. School City of Mt. Vernon*, 45 Ind. App. 572, 90 N.E. 105.

not, however, be dismissed because of general dissatisfaction on the part of parents and pupils. Such evidence is not conclusive of incompetency.¹

When a teacher is dismissed for incompetency, the burden of proof is upon the board of education. The teacher's certificate is prima facie evidence of qualification and must be overcome by positive evidence to the contrary.² It has even been held that, where the statutes authorize the board of examiners to revoke certificates for incompetency, district trustees have no right to discharge a teacher for that cause.³ Moreover, a teacher cannot be dismissed for incompetency before rendering any service under the contract. He has a right to enter the service and have his competency determined by the service rendered.⁴ As was said by the Supreme Court of Arkansas, "Matters which occurred under a previous contract would not be grounds for the avoidance of a subsequent contract."⁵ When a decision as to the competency of a teacher is to be made, the whole course of his conduct must be taken into consideration. Occasional mistakes are not conclusive.⁶ It should be kept in mind, too, that the highest qualifications are not demanded of a teacher.⁷ In this connection it was said by the Supreme Court of Illinois:

It may be that the evidence fails to show the highest possible qualifications, or a talent for his profession equal to the most eminent and successful teachers. But the law requires no such qualifications; it only requires average qualification and ability, and the usual application to the discharge of the duties of a teacher to fulfil his contract.⁸

¹ *Paul v. School District No. 2*, 28 Vt. 575.

² *School Directors v. Reddick*, 77 Ill. 628; *Neville v. School Directors of District No. 1*, 36 Ill. 71.

³ *Carver v. School District No. 6*, 113 Mich. 524, 71 N.W. 859. See, however, *School District of Ft. Smith v. Manry*, 53 Ark. 471, 14 S.W. 669.

⁴ *Farrell v. School District No. 2*, 98 Mich. 43, 56 N.W. 1053; *Argenta Special School District v. Strickland*, 152 Ark. 215, 238 S.W. 9.

⁵ *Ottiger v. School District No. 25*, 157 Ark. 82, 247 S.W. 789.

⁶ *Holden v. Shrewsbury School District No. 10*, 38 Vt. 519.

⁷ *Neville v. School Directors of District No. 1*, 36 Ill. 71; *School District No. 30 v. Rath*, 115 Ark. 606, 170 S.W. 561.

⁸ *Neville v. School Directors of District No. 1*, 36 Ill. 71.

DISMISSAL FOR NEGLECT OF DUTY

Under the common law and under statutes providing for the dismissal of teachers for neglect of duty, the courts have been called upon in a number of cases to determine what constitutes neglect within the contemplation of the law. Frequent tardiness has been held a justifiable ground for dismissal.¹ Temporary absence from school without sufficient cause likewise constitutes that degree of neglect which justifies a school board in dismissing a teacher. In an Illinois case² a teacher employed a substitute to take her place from Wednesday noon until Friday noon, when the school was to be dismissed for a vacation of several days. The teacher had no excuse for her action. She relied solely upon her right to employ a substitute teacher to do her work. In holding that the teacher had broken her contract, the court pointed out that the contract was for personal services and could not be fulfilled by employing a substitute. The court said, however:

A temporary absence of a short time, with the temporary substitution of another competent teacher, might not, under certain circumstances, constitute such a breach of contract as would authorize the employers to consider the contract at an end. The circumstances might be such that the teacher would be warranted in assuming the approval thereof, or the consent thereto by the employers, without any express consent.

It has been held, however, that delay in reporting to duty at the beginning of the school year is not such neglect of duty as to warrant the dismissal of a teacher. Thus, in a Colorado case³ it was held that a delay in reporting from September 6 to September 28 did not terminate the teacher's contract. In a Kentucky case⁴ a teacher was prevented by an interruption in railway traffic caused by floods from reporting for work until three days after the date specified in her contract. The court held that the school trustees had no legal cause to terminate the contract.

¹ *School Directors of District No. 1 v. Birch*, 93 Ill. App. 499.

² *School Directors v. Hudson*, 88 Ill. 563. Accord, *Auran v. Mentor School District No. 1*, 233 N.W. (N.D.) 644. See also, *Parrick v. School District No. 1*, 100 Kan. 569, 164 Pac. 1172; *Hong v. Independent School District No. 245*, 181 Minn. 309, 232 N.W. 329.

³ *School District No. 1 v. Parker*, 260 Pac. (Colo.) 521.

⁴ *Turner v. Hampton*, 30 Ky. L. Rep. 179, 97 S.W. 761.

DISMISSAL FOR IMMORALITY

The courts are agreed that a teacher may be dismissed for immorality.¹ In fact, it has been held that mere charges of immorality constitute sufficient cause for dismissal.² Good reputation, as well as good character, it is said, is a necessary qualification of a teacher. "If suspicion of vice or immorality be once entertained against a teacher," said the Court of Appeals of Illinois, "his influence for good is gone. The parents become distrustful, the pupils contemptuous, and the school discipline essential to success is at an end."³ Moreover, the act of immorality of which the teacher is accused need not have been committed after service under the contract began. In the case of *Freeman v. Town of Bourne*,⁴ for example, a superintendent of schools was employed in Massachusetts. Subsequently he was indicted for adultery in Maine. The court held that the school committee might dismiss him, "without assuming for themselves to determine the question of his guilt or innocence." Similarly, in a Missouri case⁵ a teacher in the St. Louis schools was accused of adultery by his wife, against whom he had brought action for divorce. The *St. Louis Globe-Democrat* published the charges of the wife with editorial comment. The school board discharged the teacher; and the court, in sustaining the action, said:

It was not for the board of directors to prejudge, or even to examine, the charges brought against this teacher by his wife; but the mere fact that charges of this character were brought against him, and that the fact had become notorious, rendered it highly inexpedient that he should remain as a teacher of higher classes frequented by youths between the ages of fourteen and twenty.

¹ *McLellan v. Board, etc. of St. Louis Public Schools*, 15 Mo. App. 362; *Freeman v. Town of Bourne*, 170 Mass. 289, 49 N.E. 435, 39 L.R.A. 510; *Tingley v. Vaughn*, 17 Ill. App. 347; *School District of Ft. Smith v. Maury*, 53 Ark. 471, 14 S.W. 669; *Argenta Special School District v. Strickland*, 152 Ark. 215, 238 S.W. 9.

² *Freeman v. Town of Bourne*, 170 Mass. 289, 49 N.E. 435, 39 L.R.A. 510, *McLellan v. Board, etc. of St. Louis Public Schools*, 15 Mo. App. 362; *Erwin v. Independent School District No. 8*, 10 Idaho 102, 77 Pac. 222.

³ *Tingley v. Vaughn*, 17 Ill. App. 347.

⁴ *Freeman v. Town of Bourne*, 170 Mass. 289, 49 N.E. 435, 39 L.R.A. 510.

⁵ *McLellan v. Board, etc. of St. Louis Public Schools*, 15 Mo. App. 362.

[To be continued]

CHILDREN'S REACTIONS AS A BASIS FOR TEACH- ING PICTURE APPRECIATION

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Introduction.—The literature of art appreciation is extraordinarily rich in the analysis of pictures; it is almost totally lacking in the analysis of children. How to teach picture appreciation has been a favorite subject of writers on art. Yet little is known as to the elements in appreciation which are already possessed by untrained children. Pictures have been considered from every angle except that of the child. In general, picture appreciation has consisted in exposing the child to masterpieces of art, describing the pictures to him, expounding the principles of art that make the pictures great, or asking the child to listen to stories about the pictures or to make up stories of his own. It is doubtful whether such procedures enable the child to appreciate pictures that are new to him.

Recommendations of authorities.—As a preliminary to the present investigation, a survey was made of the recommendations of twenty-five writers on picture study. These included public-school art supervisors, art critics, professors of art education, museum directors, and writers in art journals. Among them were Henry Turner Bailey, Belle Boas, W. Linwood Chase, Royal Cortissoz, Theodore M. Dilloway, Royal B. Farnum, Frank H. Hayward, Eugen Neuhaus, and William Vogel. Table I presents the results. Opinions were found to vary on many points, but the trends were to emphasize various technical elements in painting and design, the stories supposed to be related by pictures, and the explanation of the alleged meanings of the pictures. Many of the authorities who stressed technical elements did so only for children of adolescent age. For elementary-school pupils the tendency was to emphasize story-telling, explanation, and description—procedures which are applicable to particular

pictures but which do not give much basis for appreciation of other pictures.

Purpose of investigation.—The purpose of the investigation reported in this article was to study, first, the reactions to pictures

TABLE I
ELEMENTS OF, AND MEANS TO, PICTURE APPRECIATION DISCUSSED
BY TWENTY-FIVE WRITERS ON PICTURE STUDY

Element	Frequency of Mention
Technical elements:	
Color contrast and harmony.....	16
Composition of picture.....	16
Light and shade.....	14
Direction of lines.....	13
Center of interest.....	12
Mood of picture.....	9
Kind of brush stroke.....	7
Perspective.....	6
Form of masses.....	5
Realism and impressionism.....	3
Elements of information about picture:	
Story.....	12
Source of subject.....	9
Artist's life.....	7
History of the picture.....	5
Emotional element.....	8
Means to picture appreciation:	
Explaining meaning of picture.....	14
Questioning children.....	10
Describing picture.....	9
Contemplation.....	4
Free expression of children.....	3

made by fourth-, fifth-, and sixth-grade children who had had no training in picture study and, second, their reactions to a new set of pictures after an appreciation lesson which was built upon the review of the recommendations mentioned in the preceding paragraph and which stressed the more technical elements of appreciation. Grades IV, V, and VI were selected as the lowest grades practicable for obtaining reactions in writing. Two schools were used, neither of which had art teachers or any instruction in picture appreciation.

One was in a high-grade Kentucky community, suburban to Cincinnati. The other was in a small town, the center of an Ohio rural district.

Selection of pictures for experiment.—Four pictures were chosen for presentation in each grade, two from those recommended most often on graded lists and two from those seldom mentioned on such lists. Seventeen sources were canvassed to secure composite lists for

TABLE II
RATINGS OF JUDGES AND CHOICES OF CHILDREN GIVEN TWELVE PICTURES

PICTURE	POINTS AWARD- ED BY JUDGES	CHILDREN'S CHOICES BEFORE LESSON			CHILDREN'S CHOICES AFTER LESSON		
		Percent- age Choos- ing Picture	Num- ber of Child- ren in Group	Grade	Percent- age Choos- ing Picture	Num- ber of Child- ren in Group	Grade
The Song of the Lark (Breton)*.	15	3	77	IV	4	55	VI
Dignity and Impudence (Land- seer)	14	39	77	IV	2	42	V
Strawberry Girl (Reynolds) . .	9	35	77	IV	5	42	V
Fog Warning (Homer)*	8	23	77	IV	33	55	VI
By the Riverside (Lerolle)* . .	15	3	74	V	13	55	VI
Taos Indian Roasting Corn (Couse)	14	38	74	V	17	54	IV
Flower Girl in Holland (Hitch- cock)	13	41	74	V	69	54	IV
The Cornfield (Constable)* . .	11	19	74	V	51	55	VI
The Vigil (Pettie)	14	6	68	VI	7	84	V
The Angelus (Millet)*	12	21	68	VI	6	96	IV, V
The Fighting Temeraire (Turner)*	11	63	68	VI	71	84	V
The Whistling Boy (Duveneck) .	10	10	68	VI	18	96	IV, V

* The pictures marked with asterisks are among those most often recommended for the grade indicated.

each grade. For Grade IV, 109 titles were tabulated; for Grade V, 138; and for Grade VI, 125. At each grade level several of the pictures most often mentioned were selected for a tentative list, and several others were added from about three thousand additional prints reviewed by the experimenter. The final choices are indicated in Table II. These took into account the judgments of a jury of teachers on the pictures in each tentative list and also the need for diversity of theme and interest. The jury for each grade consisted of four competent teachers of the grade and the director of art in the Cincinnati Public Schools. The ratings were in terms of the following simple scale: 0, unsuitable; 1, fair; 2, good; 3, excellent. The

highest possible number of points which any picture could receive was 15. The results of the ratings for the pictures finally selected are given in the second column in Table II. Small colored prints of the pictures were used in the first part of the experiment.

Procedure in securing children's reactions.—It was desired to keep the classroom situation as natural as possible in order that the reactions of the children might be spontaneous and genuine.

Each teacher introduced the experimenter to her pupils. There were mutual "Good morning's."

"I have some pictures I would like to show you," the experimenter said. "There are four different kinds, and you may spread them out on your desks to look at as long as you like."

The pictures were passed and studied for some time.

"You may choose one to keep and return the others to me. Perhaps you would like to make a calendar, using your picture. I made this one [exhibiting a calendar decorated with a picture not used in the experiment], and you could make one very easily."

One child suggested that they make surprise calendars for Christmas presents, and the teacher offered to have them made at school. When the children had decided which pictures to keep, the extra prints were collected.

"I wonder how many of you can tell me why you like the picture you kept?"

Many hands were raised.

"I will give you some paper so that you may tell me why you like your picture. You may have as much time as you need to write your reasons."

Each class used approximately five minutes. The papers were collected.

"The pictures you have seen were painted by famous artists. Would you like to have me come back and show you some large pictures like your small ones and tell you all about them?"

In one of the rooms a lusty "Sure!" greeted the last question, and in all the anticipation was evident.

Children's choices of pictures.—Under the caption "Children's Choices before Lesson," Table II gives the percentages of children choosing the various pictures. The table is read as follows: "The

Song of the Lark" was chosen by 3 per cent of a group of 77 children in Grade IV, and so on. The most striking fact brought out by these data is the lack of agreement between the ratings given the pictures by supposedly competent judges and the choices of pictures made by the children. For example, in each grade the picture least favored by the children received all or all but one of the possible points of credit awarded by the judges. The data also reveal that the six pictures selected from the graded lists were chosen by only 42 per cent of the children, while the six pictures added by the experimenter were chosen by 58 per cent of the pupils. Evidently neither the makers of the graded lists nor teachers in close contact with the children studied determine the suitability of pictures for certain grades on the basis of actual child preferences, apart from training. Of course, the writers do not assume that the children's preferences should be the sole criterion of suitability.

Reasons given for choices.—The papers written after the choices had been made supplied definite information concerning the reactions to pictures made by children untrained in picture appreciation. A careful tabulation was made of every statement by each child. For instance, in the paper of a fifth-grade child appeared the following: "I like this one ['By the Riverside'] because there is a baby in this picture. And there are cows too. And some of the trees have autumn leaves on them." In this statement the elements tabulated were people, animals, and scenery.

The complete tabulation of the children's responses is found in Table III. The data disclose that the children selected their pictures largely on the basis of color, prettiness, scenery, and interest in the people and subjects portrayed. Pictures which the children could connect in some way with their previous experience had considerable appeal. The features that are found only in certain pictures or in pictures of certain subjects received a large share of the children's comments. On the other hand, technical elements, common to all good pictures, were little noticed. Comparison of the results for Grades IV, V, and VI shows a gradual growth. Prettiness was mentioned by half the fourth-grade children, many of whom could give little or nothing more as a reason for choosing a picture. Only about a fourth of the sixth-grade children mentioned prettiness, their papers being more elaborate and analytical than those of the younger

subjects. More technical details were suggested at the higher grade level, although these were few in any case.

Second part of experiment.—A few weeks after her first visit the experimenter returned and gave an appreciation lesson in each of the classes previously visited. As this lesson lasted only from fifteen to twenty-five minutes, limited results are necessarily to be expected.

TABLE III
PERCENTAGES OF CHILDREN, UNTRAINED IN PICTURE STUDY, MENTIONING
ELEMENTS OF PICTURE APPRECIATION

Element Mentioned	Fourth-Grade Children (77)	Fifth-Grade Children (74)	Sixth-Grade Children (68)	All Grades (219)
People.....	41.6	43.2	30.9	38.8
Prettiness ..	51.9	23.0	26.5	34.2
Color....	13.0	25.7	52.9	29.7
Scenery...	7.8	40.5	38.2	28.3
Previous experience...	19.5	27.0	22.1	22.8
Animals ..	40.3	6.8	0.0	16.4
Story interest...	3.9	14.9	22.1	13.2
Water....	13.0	0.0	19.1	10.5
Interpretation....	9.1	4.1	16.2	9.6
Human interest ..	3.9	9.5	8.8	7.3
Ships.....	3.9	0.0	17.6	6.8
Action ..	1.3	6.8	8.8	5.5
Fish.....	9.1	0.0	0.0	3.2
Strawberries...	9.1	0.0	0.0	3.2
Dress.....	3.9	0.0	2.9	2.3
Technique:				
Mood.....	3.9	1.4	22.1	8.7
Realism ..	1.3	1.4	11.8	4.6
Background ..	1.3	2.7	7.4	3.7
Color repetition ..	0.0	1.4	10.3	3.7
Brush stroke ..	1.3	5.4	2.9	3.2
Design ..	0.0	1.4	4.4	1.8
Color harmony ..	0.0	0.0	4.4	1.4
Position ..	0.0	0.0	1.5	0.5

The lesson was given on the four pictures previously used. Large colored prints replaced the small ones as a basis for discussion.

The experimenter was recognized and warmly greeted. She began, "I promised I would show you some large pictures like the small ones you saw the last time I was here."

The large pictures were exhibited one at a time and then placed on the blackboard ledge, each with its name written above

"Who has a picture he would like to talk about?"

Many hands were raised, and one child was allowed to choose a picture for discussion. To the question, "What do you like about

the picture?" the response invariably concerned the color or a person if a person was the center of interest. When the center of interest was suggested, the experimenter pointed out how the color helped make the center of interest. Thus, every appreciation lesson had color as a starting point. After one phase of color (such as bright color in the center of interest) had been discussed in the first picture, it was suggested that some other picture might have bright color in the center of interest. The children quickly pointed this out in each of the four pictures.

Next, it was shown how the artist used black and white or very light and very dark colors to help make the center of interest stand out from the rest of the picture. The children were able to find light and dark in all the centers of interest. This type of guidance and discussion went on until all the elements to be included in the appreciation lesson had been covered. Each element was found in all the pictures. The elements discussed were color harmony, color repetition, contrast, light and dark, center of interest, perspective, line of interest, and balance. In Grade IV, where the pupils were somewhat slow in grasping the various elements, line of interest and balance were not discussed.

"Now that you have discovered what the artists did to make these paintings famous, I wonder how many of you could look at some new pictures and tell why they are famous."

Many hands were raised, and the enthusiasm seemed general. Four different pictures, selected from among those originally chosen for the other grades, were placed on the ledge and were admired silently for several minutes.

"Instead of talking about these pictures, I would like to have you write about the one you like best. Your paper will count as a vote, and you may have the picture that receives the most votes to keep for your room."

The children wrote for from ten to fifteen minutes. Much interest in the outcome of the vote and pride in the newly acquired picture were shown.

Table IV gives a tabulation of the elements mentioned by the children in these papers. It should be noted that the children were discussing pictures they had not studied and that the results are, to some degree, a measure of the transfer of the lesson.

Results of appreciation lesson.—In the last three columns of Table II are presented the children's choices made after the lesson. As with the original choices, there is little correspondence between the children's preferences and those of the teachers who judged the suitability of the various pictures. Differences in the percentages of

TABLE IV
PERCENTAGES OF CHILDREN WHO, AFTER ONE LESSON IN PICTURE STUDY, MENTIONED VARIOUS ELEMENTS OF PICTURE APPRECIATION

	Fourth-Grade Children (61)	Fifth-Grade Children (60)	Sixth-Grade Children (55)	All Grades (179)
Color.....	65.6	75.0	65.5	68.7
People.....	53.1	11.7	74.5	45.8
Scenery.....	29.7	46.7	56.4	43.6
Water.....	9.4	55.0	47.3	36.3
Ships.....	6.3	50.0	21.8	25.7
Prettiness.....	35.9	16.7	10.9	21.8
Animals.....	0.0	1.7	41.8	13.4
Dress.....	18.8	8.3	10.9	12.8
Action.....	1.6	0.0	25.5	8.4
Interpretation.....	1.6	6.7	7.3	5.0
Fish.....	0.0	0.0	12.7	3.9
Previous experience.....	1.6	6.7	0.0	2.8
Human interest.....	0.0	0.0	0.0	0.0
Story interest.....	0.0	0.0	0.0	0.0
Strawberries.....	0.0	0.0	0.0	0.0
Technique.....				
Center of interest.....	35.9	46.7	65.5	48.6
Color repetition.....	26.6	36.7	30.9	31.3
Color contrast.....	25.0	50.0	12.7	29.6
Perspective.....	26.6	16.7	45.5	29.1
Light and dark.....	20.3	30.0	29.1	26.3
Color harmony.....	17.2	23.3	18.2	19.6
Line of interest.....	0.0	3.3	38.2	12.8
Balance.....	0.0	11.7	20.0	10.1
Background.....	3.1	8.3	16.4	8.9
Realism.....	1.6	1.7	12.7	5.0
Position.....	1.6	6.7	5.5	4.5
Brush stroke.....	1.6	0.0	1.8	1.1
Mood.....	0.0	0.0	1.8	0.6

children choosing certain pictures before and after the lesson are probably only partly due to the lesson and are not highly significant.

The outstanding results of the lesson are seen in the reasons given by children for their choices, which are tabulated in Table IV. Although the factors mentioned most often in the first papers continue to secure notice, very decided gains are made by the technical elements stressed in the lesson. In fact, six new aspects of technique not appearing at all in Table III are now listed.

In all grades the second papers were much longer and more analytical than the first. Herbert, a sixth-grade boy, wrote the following in his first paper: "Because I think it ['The Angelus'] looks more real. And they look thankful to God." His second paper reads: "I like 'By the Riverside' the best because it shows the brightest colors on the woman and it repeats the colors. It wants you to look at the woman more than anything. It makes you look way back. It looks like real. The sky looks real, trees look real. Everything looks real, and it is balanced well." The boy showed his interest in realism and people in both papers, but in the second case he was able to feel a much broader appreciation for the picture of his choice. He was interested in color and its relation to the center of interest; he noticed the repetition of color; he discovered that the picture had perspective; he felt the balance of the picture; and he analyzed the details that made the picture look real.

In the first papers the reaction tended to be one of emotional appreciation. In the second papers the reaction was still emotional but with an added intellectual appreciation. The children's interest in color and people, shown in their first reactions, proved a useful basis for the lesson, which developed appreciation along technical lines.

Conclusions.—Picture appreciation in the school should help children throughout life to evaluate and enjoy fine examples of art. The fact that a youngster looks at some one picture, hears a description of it, is told a story about it, and reads something concerning the artist's life may lead him to appreciate the picture in question but will not help him much if he walks into a museum to see entirely different pictures.

Many teachers of picture study hesitate to teach the more technical elements of appreciation. Some consider such instruction impossible below the junior high school. It is the belief of the writers that even in the elementary school these factors in technique can be made the foundation for an appreciation of all good works of art. The technical elements are the common language of artists and can be made the common key to appreciation for all normal children. The results of this experiment seem in agreement with this belief.

A PLAN FOR SIFTING PROPAGANDA IN THE SCHOOLS

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Propaganda, as it affects the schools, is the effort of individuals or organizations to influence the habits, attitudes, or ideals of the pupils in certain desired ways. It ranges from the direct and aboveboard action of the man who prints his advertisement on blotters to be distributed free to the school children to the more subtle use of contests and biased statements in textbooks and supplementary reading material.

TYPES OF PROPAGANDA

Practically all forms of propaganda may be classified from the standpoint of purpose as belonging either to the "uplifter" or to the "salesman" type. For the purpose of this discussion the forms of propaganda are classified from the standpoint of method. Eight major types are most often used in schools: (1) free distribution of manufactured products, such as tooth paste and breakfast food; (2) the distribution of various forms of supplementary teaching materials pointing to attitudes that will lead to the purchase of certain articles or to certain desired lines of action; (3) the distribution of accessories bearing printed advertisements, such as blotters, pencils, or erasers; (4) the use of biased statements in textbooks; (5) the promotion of contests in such fields as essay-writing, poster-making, oratory, and spelling; (6) the furnishing of outside speakers; (7) the promotion of the observance of special days and weeks; and (8) mass utilization of children for collecting, donating, or appearing in public functions.

All these efforts and many others are more and more coming to be recognized as propaganda. School people may as well realize that propaganda will be with them for a long time and prepare to deal with it in a systematic way according to a growing background of

basic policies and specific rules. School administrators should recognize that propaganda includes all activities which seek to mold and direct public opinion whether the resulting opinion is sound or unsound, good or bad, or whether the method itself is honest or dishonest.

THE PROBLEM FOR THE SCHOOL

The problem for school officials is to work out an organization which will handle this situation and will develop general policies and even specific rules to guide them in their decisions as to what is to be allowed to reach the children and what is to be diverted.

This problem affects all divisions in the school system. The school board, as the body intrusted by the state with the responsibility for education in the various subdivisions of the state, must be primarily responsible, and to it school administrators must look for basic policies and lines of action in dealing with this problem. The action of the school board, however, should be largely influenced by the leadership of the superintendent, as he will be in active charge of whatever organization is set up to deal with propaganda. The supervisors in charge of curriculums are vitally interested in the problem because in most instances propaganda represents an addition to the course of study or to the teaching materials of the course. In the individual schools many forms of propaganda will first reach the principal and in many instances will require an immediate decision even though the decision may be preliminary or tentative. Other forms of propaganda will first be met by the classroom teacher, and in practically every form propaganda will make its appeal to the children through the action of the classroom teacher. Hence, he must be especially schooled in the proper attitudes toward propaganda.

AN ORGANIZATION TO HANDLE PROBLEMS RELATING TO PROPAGANDA

In setting up a plan to handle the questions pertaining to propaganda, the superintendent will want to be guided by the opinions resulting from contact with all the groups mentioned. His first step, then, may well be the formation of an advisory group composed of representatives of the elementary school, the junior high school, the senior high school, and the junior college. The representatives should

be principals, teachers, and supervisors from each division, who will meet with the superintendent. The duties of this group are to set up the general policy to be adopted toward propaganda, to work out general rules of action for the consideration of the board of education, and to make recommendations in specific cases in the light of the policies and the rules adopted.

Basic policies.—Among the basic considerations which should influence the policies is that of the functions of education. Pupils must be trained to think for themselves, to weigh the evidence, and to make decisions. Social and business institutions are changing more rapidly than ever before, and hence there is an increasing need for this type of training. The consideration given from this angle will result in two conclusions: first, that the schools cannot allow children to be influenced by only one side of a question and, second, that children must be trained to recognize propaganda and be prepared to view it in its proper light. In order to develop the ability to weigh and consider relative merits and values when he becomes an adult, the child must have practice in such an activity. This fact must be considered before it is decided to shelter him from all propaganda. The aim should be to expose him to propaganda from all angles of any situation that is deemed of educational value and give him training in thoughtful choice.

A second basic policy may well be that no form of outside material or help shall be used in the school which the school itself cannot supply. The ability to supply materials may be conditioned by finances or public opinion, but from the financial standpoint it may be pointed out that the public pays whether the pupils use materials furnished by propagandists or use materials paid for through regular school channels.

A third basic rule should be that all materials and activities which are admitted to the school outside the regular course of study shall contribute to the aims and purposes of the regularly constituted course of study.

A fourth rule is that, in case material bearing an individual or trade name is considered admissible according to the policies adopted, the name shall be removed, with the consent of the advertiser, before the material is used in the school unless similar material from

other representative persons or firms in the same line of business is also used.

These four general policies or rules cover most of the vexing problems that the advisory group will be required to solve in deciding what material or activities may be admitted to the school and how they may be used.

Interpretations and courses of action.—The remaining problem for the advisory group is to build up and enforce definite rules and courses of action for use in dealing with the various types of propaganda.

1. Firms wishing to distribute free samples should be requested to make their distribution outside the school grounds. The samples distributed have small economic value to any individual recipient, and it is not the function of the school to go out and find similar material to distribute. Some may argue that there is an educational value in giving a child a free cake of soap, but the writer believes that nothing is gained which cannot be as efficiently accomplished through good teaching.

2. In the case of literature which is considered by the advisory group to have educational value, literature presenting the opposite side of the case if a controversial question is involved, or literature from other firms if the propaganda is of the "salesman" type, should be given out at the same time.

3. Accessories for pupils bearing printed advertising cannot be defended under the suggested basic policies. These should be distributed by representatives of the advertiser outside the school premises. The public pays for such materials indirectly, and, if the materials are school necessities, they should be paid for as items of regular school expense.

4. Textbooks should be reviewed by the advisory group or by the regular textbook committee in order to discover whether any propaganda has been inserted. Probably the advisory committee should give its opinion of any books requested by the textbook committee since the advisory group will have developed a finer sense of discrimination through its general activities.

5. Of all the intrusions on regular school activities, contests are probably the greatest source of annoyance to school administrators.

Contests are given wide publicity in the metropolitan newspapers and have the backing of powerful single-purpose groups in the community, state, and nation. Public opinion in favor of the contest is built up until the school official feels that he is one against the rest of the community in his thinking on this question. The adoption of the basic policies suggested will give him a definite line of action. If the activity is one of educational value, he will see that it is put in the school by the school officials themselves and the objections often found in contests eliminated.¹ If the school is running an oratorical contest through regular class channels, it has no room for a second contest originated outside the school for the real purpose of furthering the ideas of some particular group or business. If it is decided that a contest sponsored by an outside group does not contribute to the educational activities of the school, the sponsors should be informed of the fact and the policies upon which the action is based brought to their attention. In some cases the activity legitimately belongs in the field of activity of some other organization, such as the city recreation department.

6. Persons who are invited by themselves or by outside sponsors to speak before the pupils should be investigated before they are allowed to foist their ideas on the pupils. Some member of the advisory group or a reliable judge outside the group should hear what the speaker offers in his talks and decide, first, whether the material can contribute to the educational program of the school and, second, whether the opposite side of the case can be provided either at the time of the talk or soon afterward. If the school is seeking a speaker, the same caution should be exercised, after it has been decided that the school itself cannot supply the same value.

7. Propaganda for special days and weeks has not been so embarrassing a problem, but again the necessity arises for careful study as to how much these occasions can contribute to the program of the school and how much time, if any, can justifiably be spent on any

¹ Edwin C. Broome, "Report of the Committee on Propaganda—Abstract," *Proceedings of the National Education Association*, LXVII (1929), 204-17. This report lists four major objections to school contests originating outside the school: (1) Only the most gifted participate. (2) The prize often goes to a pupil who is not the most worthy. (3) Dishonesty in preparation is fostered. (4) Interest is directed toward the prize rather than a worthy educational task.

one of them. In this connection it might not be amiss to mention that the schools themselves have a special week. Perhaps it behooves us to eliminate our week and devote ourselves to a continuous program of informing the public of school accomplishments, policies, and needs.

8. Mass utilization of pupils for outside activities seems to be one of the most pernicious forms of propaganda and one of the hardest to cope with. If the committee feels that the activity does not meet the requirements of its basic policies, it is in a ticklish position unless some groundwork has previously been laid for its case. The school's policy and the underlying reasons for it must be given publicity in order that the whole school organization will be supported in its handling of propaganda and more especially in those types sponsored by local groups or local business. The public should be brought to see that the schools are *their* schools and that the board of education, in its adoption and administration of policies regarding propaganda, is devising protection for *their* children. If such a groundwork of publicity is carefully laid and if the advisory board follows the adopted policies uniformly and logically, the problems growing out of propaganda in the schools should be successfully met and solved.

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A TECHNIQUE FOR COMPARING THE DIFFICULTY OF PROBLEMS IN TEXTBOOKS IN ARITHMETIC

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In order to get some idea of the variation in the average level of difficulty of verbal problems in arithmetic textbooks, the writers devised a simple technique. Thirty problems were selected at random from each of ten fifth-grade textbooks with copyright dates ranging from 1907 to 1928. The number of problems in each book was first counted, the total was divided by 30, and the problems were then selected in that ratio. For example, if a textbook contained 750 problems, every twenty-fifth problem was selected throughout the entire book of the grade. Thus, each set of problems represented a random sampling of a year's work. A total of three hundred problems was used in this study.

The problems were then divided into sets of ten problems each, one problem from each textbook appearing in each set. The position of the problems from each book in the test was rotated. Each set of problems was then given to one hundred pupils in the fifth grade near the close of the school year. No one group was given all three hundred problems because of obvious limitations of time. The percentage of the pupils who solved each problem correctly was then determined. On the basis of this information, comparisons between textbooks were made. The essential facts are given in Table I. The range of difficulty of the problems in Textbook A is shown by the fact that three problems were solved correctly by 20-29 per cent of the pupils while two problems were solved by 90-99 per cent of the pupils. The median percentage of correct solutions in Textbook A is 54. Similar data are given for each of the other nine textbooks.

It will be observed that in all the books there is a wide range in

the difficulty of the problems. The widest variation is in Textbook E, in which there were two problems solved correctly by less than 10 per cent of the pupils, while there was one problem solved correctly by 100 per cent of the pupils. The median percentages of correct solutions for all problems in a book range from 54 in Textbook A to 30 in Textbook J, a difference of 24 between the two medians.

TABLE I

DISTRIBUTION OF PROBLEMS IN TEN TEXTBOOKS IN FIFTH-GRADE ARITHMETIC
ACCORDING TO PERCENTAGE OF PUPILS WHO SOLVED
PROBLEMS CORRECTLY

PERCENTAGE OF PUPILS SOLVING PROBLEMS CORRECTLY	NUMBER OF PROBLEMS IN TEXTBOOK									
	A	B	C	D	E	F	G	H	I	J
100	0	0	0	0	1	0	0	0	0	0
90-99	2	1	2	0	0	1	1	3	1	0
80-89	2	6	3	4	3	3	3	0	0	2
70-79	3	1	3	5	4	2	2	5	4	2
60-69	5	4	3	4	3	2	4	2	2	2
50-59	5	3	4	1	2	5	3	4	2	1
40-49	6	5	5	5	6	5	3	1	5	4
30-39	4	4	2	2	2	4	2	2	3	4
20-29	3	2	2	1	4	2	5	3	5	2
10-19	0	0	2	6	3	1	4	5	4	6
0-9	0	4	4	2	2	5	3	5	4	7
Total	30	30	30	30	30	30	30	30	30	30
Median	54.0	50.0	50.0	48.0	46.7	46.0	43.3	40.0	36.7	30.0
Highest	93.0	96.0	97.0	89.0	100.0	93.0	97.0	95.0	91.0	81.0
Lowest	21.0	5.0	4.0	4.0	2.0	3.0	2.0	1.0	3.0	1.0

The facts revealed by this more or less preliminary investigation raise some interesting questions. What should be the average difficulty of the problems in a textbook in arithmetic? It seems rather obvious that, if the problems in a textbook can be solved by only 30 per cent of a typical one hundred pupils of the grade at the end of the year, the book is too difficult, especially for the slower pupils. Is 54 per cent of correct solutions a reasonable index of difficulty? Should the average difficulty be as high as 75 per cent of correct solutions?

The wide range in the difficulty of single problems in each textbook raises the question as to what the range of difficulty should be. If one recognizes the fact that pupils vary widely in ability, it seems

reasonable to assume that the problems should range from easy to difficult—some easy enough for the slowest pupils and some difficult enough to challenge the best pupils in the class. However, the problems, it would appear, should not on the average be so difficult that less than half of the pupils can solve them. It seems likely that, if a fair degree of success in solving the problems is to be insured, the problems should tend to be easy enough so that, say, 75 per cent of the pupils can solve them at the end of the year.

The technique here employed can easily be used by textbook committees to determine the relative difficulty of problems in textbooks being considered for adoption. The number of problems used as a sampling can be increased to any number that the committee may feel should be used. It would be interesting to make a systematic comparison of the percentages of problems solved correctly by the pupils on regular monthly tests covering the work completed to date in several different books rather than to use the procedure here described of giving the tests at the end of the year.

THE ADMINISTRATION OF EQUALIZATION FUNDS IN STATES HAVING RECENT ADMINISTRATIVE LEGISLATION

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An examination of the provisions for disbursing equalization funds with which to support the minimum educational program in states having recent legislation on the subject shows the use of a variety of methods in the different states. Some states provide for such aid by legislative formulas alone, while others secure a more flexible administration of the equalization program by vesting discretionary powers in the appropriate executive board or officer of the state school system.

The methods of administering equalization aid used by eight states having recent legislation on the subject were examined with a view to ascertaining (1) the nature of the methods used and (2) the probability that support for the minimum program for schools would be furnished. The eight states are Delaware, North Carolina, Maryland, New Hampshire, Virginia, Missouri, New York, and Utah. The findings reported are based on descriptive reports issued by the state departments of education, legal documents, and conferences with educational officials of the states mentioned.

METHODS USED IN DISTRIBUTION OF FUNDS

The plans used by the foregoing states for supporting the state minimum program may be classified into three groups: (1) plans whereby the state provides for full support of the schools, (2) plans in which the state supplements the proceeds from the local-district tax to pay costs of certain or all budget items, (3) plans which provide fixed support for the school unit or the teaching unit minus the actual, required, or assumed proceeds from local-district taxes.

Delaware and North Carolina use plans belonging to the first class. In Delaware the State Department of Public Instruction dis-

burses funds with which to support such budgets as are approved by the department. The most important item is that of teachers' salaries, and budgets are interpreted in terms of the state schedule formulated by the State Department in conference with school representatives from the thirteen special districts in the state.¹ North Carolina recently provided for state support of a six months' school term and appropriated \$16,500,000 for each of the school years ending June, 1932, and June, 1933, respectively. Partial support is provided for an extended two months' term, the balance being raised by uniform local taxes in districts supporting the extended term. The state board administers \$150,000 with which to supply additional teachers according to the board's judgment of such needs.

Maryland, New Hampshire, and Virginia use plans belonging to the second class. Maryland pays the budget items for teachers' salaries, based on state schedules, in excess of the proceeds of a local tax of 67 cents on each \$100 of valuation. New Hampshire pays the cost of all approved budget items in excess of the proceeds from a district tax of 50 cents on each \$100 of valuation. Virginia pays the costs of teachers' salaries in excess of the minimum determined by a state salary schedule based on qualifications.

New York, Utah, and Missouri use plans belonging to the third class. The chief characteristic of these plans is that the costs of the school unit or the teaching units are specified amounts, the funds for which are furnished by the state in excess of amounts received by the district from local taxes or from other sources. In schools of more than one room New York provides \$1,500 for each elementary-school teaching unit and \$1,900 for each high-school teaching unit less an amount equivalent to the proceeds from a local tax of 60 cents on each \$1,000 of true valuation in the district. The one-teacher rural-school unit is provided \$1,500 less an amount equivalent to the proceeds of a local tax of 40 cents. The Utah plan sets up a school unit costing \$1,655 and provides that amount less the proceeds from a required local school tax of 55 cents on each \$100 of assessed valuation and the amount received from the distribution of the equivalent of \$25 for each child of school age in the state on the basis of the last

¹ *School Laws of State of Delaware, 1929*, p. 17. Compiled by the State Department of Public Instruction. Wilmington, Delaware: Star Publishing Co

school census. The Missouri plan incorporates features very similar to those in the plans of New York and Utah. The state provides \$750 for each elementary-school teaching unit and \$1,000 for each high-school teaching unit less the proceeds of a qualifying local tax of 20 cents on each \$100 of assessed valuation in the district. The plan further provides \$900 and \$1,200, respectively, for the units when sufficient funds are available.

The specific provisions of the methods used by the foregoing states are shown in the following summary.

SUMMARY OF METHODS OF DISTRIBUTING EQUALIZATION AID IN EIGHT
STATES HAVING RECENT LEGISLATION

Delaware.—The state board approves district budgets¹ on the basis of the state salary schedule for teachers constructed by the board,² within the limits of legislative appropriation. For 1930-31, \$3,250,000 was appropriated. The school system is operated as a state unit with provision for city districts.³

North Carolina.—The state supports a six months' school term. An appropriation of \$16,500,000 was made for school years ending June, 1932, and June, 1933, respectively. A fund of \$150,000 is provided to be used by the state board for salaries of emergency teachers. Extension to an eight months' term is supported in part by the state board and in part by a uniform local tax in districts maintaining such extended term⁴ (1931 legislation).

Maryland.—The state supplements proceeds from a required local tax of 67 cents on \$100 of assessed valuation to pay the budget item for teachers' salaries according to the state schedule.⁵ The state pays 76 per cent of an approved budget, 24 per cent of which must contain items for expenditures other than teachers' salaries.⁶ One-half of the transportation costs are arbitrarily added.

New Hampshire.—The required local levy is 35 cents, but the state supplements the proceeds from a township levy of 50 cents on each \$100 of valuation

¹ *School Laws of State of Delaware, 1929*, secs. 13-15, pp. 17-19. Compiled by the State Department of Public Instruction. Wilmington, Delaware. Star Publishing Co.

² *Ibid.*, pp. 11-12.

³ *Annual Report of the Department of Public Instruction for the Year Ending June 30, 1931*, pp. 1-8. Dover, Delaware: State Board of Education

⁴ *New School Legislation Enacted by the General Assembly of North Carolina, Session 1931*, pp. 3-38. Educational Publication No. 159, Division of Publications, No. 49 Raleigh, North Carolina: State Superintendent of Public Instruction.

⁵ *The Public School Laws of Maryland*, sec. 204, pp. 113-14. Baltimore: State Board of Education, 1927.

⁶ *Equalizing Educational Opportunities in Maryland through a Minimum Program and an Equalization Fund*, pp. 23-24. Maryland School Bulletin, Vol. XII, No. 1. Baltimore: State Department of Education, 1930.

to furnish the balance of budget needs as approved by the state board within the limits of the appropriation.¹ Five per cent of the budget may be distributed on a basis of unusual need.² A limit of \$6,000 is placed on aid given to any one township.³ A fund of \$352,555.03 was disbursed in 1929-30.

Virginia.—The appropriation is distributed according to regulations established by the State Board of Education. The temporary plan is to pay the cost of teachers' salaries in excess of the state minimum for the state salary schedule based on qualifications (1930).⁴ An appropriation of \$500,000 was made by the legislature for 1931.

Missouri.—In addition to the proceeds of a qualifying local tax of 20 cents on each \$100 of assessed valuation in the district, the state will provide sufficient funds to guarantee to each district \$750 for each elementary-school teaching unit and \$1,000 for each high-school teaching unit. When funds will permit, the state will guarantee \$900 and \$1,200, respectively.⁵ The number of teaching units is determined by a scheduled number of pupils per teacher in average daily attendance.

New York.—For schools with more than one teacher the state provides \$1,500 for each elementary-school teaching unit and \$1,000 for each high-school teaching unit less an amount equivalent to a tax of 60 cents on each \$1,000 of true valuation of property in the district. The number of teachers is determined by a pupil ratio.⁶

For one-teacher rural schools the state provides \$1,500 (1931) for each teacher less an amount equivalent to the proceeds from a district tax of 40 cents.⁷ An appropriation of \$90,000,000 was made for 1931-32.

Utah.—The state supplements the proceeds of a local school tax of 55 cents on each \$100 of assessed valuation and the amount received from the state distribution on the school-census basis by an amount sufficient to provide \$1,655 for each school unit. The units are determined on the basis of one unit for a one-room school, two units for a two-room school, and one unit for each thirty-six weighted pupils in larger schools (1931).⁸

¹ *Laws of New Hampshire Relating to Public Schools, 1931*, chap. 121, sec. 8 p. 72. Concord, New Hampshire: State Board of Education

² *Ibid.*, sec. 11, p. 73.

³ *Ibid.*, sec. 13, p. 74.

⁴ *Virginia School Laws, 1930*, p. 7. Bulletin of State Board of Education, Vol. XII, No. 6. Richmond, Virginia: Division of Purchase and Printing, 1930.

⁵ "New School Law," *Department of Education Bulletin* (School Money Edition), V (May, 1931), 24-28. Jefferson City, Missouri: State Department of Education

⁶ *Education Law as Amended to July 1, 1931*, art. 18, sec. 491, pp. 168-70. University of the State of New York Bulletin, No. 978. Albany, New York: University of the State of New York Press, 1931.

⁷ *Loc. cit.*

⁸ *Utah School Laws*, chap. 57, sec. 4, pp. 94-96. Salt Lake City, Utah: Department of Public Instruction, 1931.

The state continues to disburse to each county an amount equivalent to \$25 for each child of school age in the state on the basis of the last school census of children six to eighteen years of age.¹

CERTAINTY OF SCHOOL SUPPORT

In all three plans of administering the distribution of equalization aid, the legislatures attempted to make certain that each district would have sufficient funds to support the state's minimum educational program. Two factors determine the extent to which this objective can be realized. The first of the factors is the amount of the state appropriation. Frequently the appropriation is insufficient to meet the needs of carrying out the full provisions of the plan. An example is found in the action of the Delaware legislature which for several years prior to 1928 failed to provide an appropriation sufficiently large to meet the needs of the state budget submitted by the State Department of Public Instruction. This condition existed despite the fact that the revenues from sources especially designed to support the schools actually exceeded the amount of the appropriation each year.²

In each of the states discussed in this article the amount of money to be used for equalizing the support of the minimum program must be provided by legislative action. In most states funds for distribution to schools have been increased at each succeeding session of the legislature, but the funds provided have fallen far short of the needs.³ There is constant danger that the appropriations may be much less than the amount necessary to provide the state's share of supporting the accepted minimum program for schools.

The second factor governing a local district's receipt of state funds with which to support the minimum program is compulsory or optional participation in the state plan of equalization. Compulsory participation is usually accompanied by a requirement that a local tax levy of a stipulated rate shall be made. Examples are found in

¹ *Ibid.*, pp. 90-91.

² Fletcher Harper Swift and Bruce Lewis Zimmerman, *State School Taxes and School Funds and Their Apportionment*, pp. 71-72. United States Bureau of Education Bulletin No. 29, 1928.

³ Fletcher Harper Swift, *Federal and State Policies in Public School Finance in the United States*, pp. 82-94. Boston: Ginn & Co., 1931.

the plans used by New Hampshire, Maryland, Utah, and New York. Optional participation allows the district to choose whether it will enter the state plan. If a district chooses to enter the plan, a local levy of a specified rate must be made. Voluntary participation is a feature of the plans used in North Carolina and Missouri. There is less certainty that all districts will have adequate funds under the optional plan of participation than under the compulsory plan.

FLEXIBILITY OF ADMINISTRATION

Flexibility of administration means that discretionary powers in the distribution of funds are vested in some responsible body or individual, such as the state board of education, the chief executive of the board, or the state superintendent of public instruction. The purpose of the present inquiry is to determine the extent to which such powers are delegated to those responsible by the law for the administration of state funds used to equalize the support of the state minimum program for schools.

A large amount of flexibility characterizes the powers granted the state boards of education of Delaware, North Carolina, New Hampshire, and Maryland for disbursing state aid to schools. In Delaware full support is provided in accordance with district needs. The board's power is limited only by the amount of the appropriation made by the legislature. In North Carolina the board exercises the power of approval of the budgets of districts for a six months' term and for an extended term in certain districts. In New Hampshire the board has absolute power of approval of the budgets of the districts which levy the qualifying local tax entitling them to equalization aid. In addition, the board has full discretionary powers in disbursing 5 per cent of the distributive fund on the basis of unusual need. The State Department of Education of Maryland approves all district budgets and furnishes aid to the extent of paying the cost of teachers' salaries according to the state schedule. Twenty-four per cent of the budget must be expended for current expenses other than teachers' salaries, and therefore the practice is to pay 76 per cent of the budget. The department's powers lie in determining the number of teachers and in the approval of budget items.

In the states of New York, Utah, and Missouri, the commissioner

or the state superintendent exercises discretionary administrative powers to a lesser degree than the officials in the foregoing group of states. However, a large measure of responsibility rests with the executive for determining the number of teaching units or school units to be supported, although such action must adhere to formula. The amount of support for each unit is established by law. The adjustment of the legal support to be given each unit after deducting the amount raised by the local tax and the amount of other funds received by the unit is a heavy responsibility, if not a matter involving the use of extensive discretionary action.

The legislature of Virginia recently charged the State Board of Education with the distribution of the equalization fund according to such regulations as the board should formulate.

It may be concluded from the foregoing analysis of the discretionary powers exercised by state boards, state superintendents, and commissioners that a considerable amount of flexibility of administration is a factor in those plans for distributing equalization aid which effectively and intelligently accomplish the purpose of providing the necessary funds with which to support the state minimum program for schools.

DIAGNOSTIC AND REMEDIAL READING. I

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It has long been recognized that marked individual differences exist in ability to profit by ordinary classroom instruction in reading. Only recently, however, has a differentiation been made between reading deficiencies due to general intellectual shortcomings which cannot be remedied and deficiencies due to more specific causes, the effects of which may be eliminated to some degree by carefully planned and executed remedial treatment.

The purpose of this article is twofold: (1) to give a rather complete bibliography on the subject of diagnostic and remedial reading and (2) to give a critical review of the literature on certain phases of this field. The following phases will be considered: (1) causes, (2) methods of diagnosing, and (3) treatment and prognosis of severe reading disability.

Evidence from the more recent discussions and experimental reports indicates that reading ability distributes itself over a normal-distribution curve. The various degrees of reading deficiency extend from the middle of the distribution to one end at which are found the extreme cases of reading disability. Retardation in reading ability of one year or more in the case of individuals with at least normal intelligence justifies diagnosis and remedial treatment. In the first two grades a retardation of one-half year is serious.

CAUSES OF READING DEFICIENCIES

Intelligence and mental age.—The most important determinant of reading ability is, without doubt, general intelligence. "Among unselected children," Gates states, "backwardness in reading and spelling will probably be more frequently associated with low general mental ability than with any other single cause" (52: 96-97). Figures cited by Theisen (158) reveal correlations of from .65 to .84 between intelligence and reading scores. Gates (52) obtained a corre-

lation of .71 between reading ability and scores on a group verbal intelligence test and a correlation of .49 between mental age and reading ability. Theisen's discussion also shows that children with intelligence quotients of 85 or below have considerable difficulty in learning to read at all. According to Gates, "It is a remarkable achievement to teach any child of less than 65 I.Q. to read new material unassisted" (50: 14). After 6.5 years in school a group with a mean intelligence quotient of 43 had an estimated reading vocabulary of only 225 words. From a study of bright, average, and dull children, Davidson concluded that brightness "is apparently the most important factor in reading success so far considered" (29: 288). In such investigations as that of Gray (62) low native intelligence is one of the most frequently cited causes of reading deficiency.

These results suggest that intellectual level should always be considered in diagnosing reading deficiency. Fildes (44) and Wallin (168) have called attention to the important fact that certain factors other than low intelligence quotients may operate to impair the reading efficiency of mentally retarded subjects. It is desirable, therefore, that a subject's reading score be compared with that normally expected of a child of the same mental age (49).

The remainder of this discussion is concerned with severe reading deficiencies which remain after intellectual retardation and visual and auditory defects have been eliminated as causal factors.

Congenital word-blindness.—The term "acquired word-blindness" (72) has been used by ophthalmologists to designate a condition in which an individual with normal vision and therefore with ability to see the letters and words distinctly is no longer able to interpret written or printed language because of a lesion in part of the visual center of the brain. All the visual memories of words and letters have been swept away. Re-education of such cases is a slow and laborious task, and with elderly people nearly impossible. Because persons who have normal vision, audition, and intelligence but who show extreme difficulty in learning to recognize printed and written language have symptoms analogous to disabilities caused by known cerebral lesions in acquired word-blindness, they have been said to be suffering from "congenital word-blindness." This term has had wide application by Hinshelwood (71) and certain English ophthal-

mologists, although Brissaud (17) and other French neurologists have limited the term "word-blindness" to the acquired condition. More recently not only "congenital word-blindness" but also "developmental alexia," "congenital aphasia," "dyslexia," "congenital alexia," "strephosymbolia," and "inability to learn to read" have been employed by psychologists to designate non-readers. Hinshelwood (71) and certain other medical writers have attributed this inability to understand and interpret printed symbols to a congenital defect caused by a pathological condition or by a lack of development of specific areas of the brain tissue. Bronner (18) has pointed out that congenital defect of a visual word center has not been proved nor even recognized by neurologists. Congenital defect as an explanation of special disability in reading has been rejected by Burt (22), Gates (49), Hollingworth (79), Orton (123), and practically all other psychologists. It is recognized, however, that certain children have an original inability to learn to read by the ordinary classroom teaching. Although a few psychologists, for example, Burt and Gates, would reject the term "word-blindness," the term has been and still is used to good advantage in discussing cases of extreme disability in reading because it describes rather adequately the specific deficiencies. There should be no serious objection to the term provided that congenital defect is discarded as an explanation of the condition described and provided also that the need for more definite diagnosis and more specific remedial treatment is recognized. When used, however, "word-blindness" should always be employed as a description rather than as an explanation of certain extreme cases of reading disability.

Other causes treated later.—A critical review of the literature dealing with further causes of reading deficiency—heredity, cerebral dominance, unfortunate reading habits, and others—will be treated in the second of these two articles.

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[To be concluded]

Educational Writings

REVIEWS AND BOOK NOTES

Education as viewed by different schools of psychology.—The very widespread interest in psychology which has been apparent during the past quarter of a century has been paralleled by an increasing amount of confusion as to just what psychological beliefs are justifiable. The chief reason for this confusion has been the contradictory positions held by various schools of psychology. The names of these various schools and their leading proponents are better known than are their essential teachings. In view of the general condition of psychology at the present time, students of education are perhaps not to be blamed if they assume a disinterested position regarding the peculiar merits of structuralism, functionalism, behaviorism, Freudianism, Gestaltism, etc. However, the effects of these various views on problems of education are decidedly within the educator's field of interest. Professor Ragsdale has prepared a book¹ which will at least give the student of education a general overview of the whole situation. It will probably do little more than this.

Professor Ragsdale presents his material in two divisions. In Part I of his book he deals with the psychological theories underlying education. He explains the major tenets of the various schools of psychology and then discusses in some detail the bearing of these views on instincts, emotions, mental inheritance, learning, and tests and measurements. In Part II he deals with certain current educational problems viewed in the light of modern psychologies. Here he discusses such problems as individualized instruction, guidance, preschool and adult education, character education, and mental hygiene. He includes a stimulating chapter on experimental education and concludes with a résumé of psychological principles and educational problems.

In summarizing the present situation in America, Professor Ragsdale states that "the dominating school of psychology is functionalism; the structural psychology is fast disappearing; objective psychology is new and has many ardent supporters. . . . Psychoanalysis is popular among psychiatrists, social workers, and others who are interested in the treatment of mental abnormality and the development of character. . . . The Gestalt psychology is important in combating an oversimplification of the facts of human activity. . . . Hormic

¹ Clarence E. Ragsdale, *Modern Psychologies and Education*. New York: Macmillan Co., 1932. Pp. xviii+408. \$2.25.

[purposive] psychology represents the viewpoint of those who believe that there is more to human beings than matter and motion" (p. 85).

Students of education will be interested in the following quotation relating to learning.

At the present time we know very little about the neurological basis of learning. We have been forced by the weight of experimental evidence to give up the belief that habit formation, or association of ideas, consists of the building-up of nerve pathways of low resistance. Relatively large portions of the nervous system are clearly involved in even the simplest activity. We are convinced only that learning requires relatively permanent changes. Concerning the nature of these changes we may scarcely hazard a guess.

In the absence of an adequate theory of learning, teaching must remain an empirical procedure. We must continue to try out experimentally those procedures that seem worth while, checking the one against the other. The immediate hope for improvement in the techniques of learning and teaching lies in experimental education [pp. 393-94].

With the final sentence the reviewer can agree entirely, although he does not consider Professor Ragsdale's chapter on experimental education either comprehensive or well informed. The illustrations given in that chapter are not representative of the major developments in experimental education and indicate an unawareness of the laboratory studies which have constituted a major contribution to experimental education during the last twenty years.

As a whole, the book is very much worth reading and will be a valuable reference for advanced classes in educational psychology.

G. T. BUSWELL

A book on the English curriculum of importance to teachers of every subject.—A monograph by R. L. Lyman,¹ of the School of Education, University of Chicago, deals with the correlation of the different phases of English instruction with each other, with other academic subjects, and with life. It is a concise summary of a large number of actual experiments so classified as to present at once a picture of current educational trends and a theory of English-teaching. It consists of 252 pages containing in simple language more useful information to a square inch of "wordage" than many readers of educational books will believe possible. It will be a stimulus to curriculum-makers and a godsend to classroom teachers. The curriculum-maker will gain from it a vision of a fuller, more vital, more purposeful, more educative, more economic, and more interesting English course, the possibility of which is attested by recorded trial. The classroom teacher will discover on every page something concrete he can do to strengthen, vary, and enliven his instruction. The experimental school interested in new types of activity and the graduate student in search of a thesis topic will find listed forty-

¹ R. L. Lyman, *The Enrichment of the English Curriculum*. Supplementary Educational Monographs, No. 39. Chicago: Department of Education, University of Chicago, 1932. Pp. viii+252 \$2.00.

three specific lines of needed experimentation, involving innumerable problems suitable for individual research.

The monograph presents materials gathered all over the United States from junior high school, senior high school, and college levels. These materials are arranged to illustrate two major ideas: the necessity of organizing instruction about many diverse functional centers of activity and the fact that things are meaningful and educative to pupils only when seen in relation to each other.

The term "functional centers of activity" means simply that the actual uses of a subject in ordinary life should form the basis of the study of the subject and that its practice in school should occur in purposeful activities involving such uses. The soundness of this idea is open to no question so long as *all* the valuable uses of a subject are recognized. There is a dangerous tendency today to emphasize in education only the more patent and practical. The outer man is more obvious than the inner. For instance, it is easier to see that telephone conversations and letters are definite daily uses of composition than to see that reflection upon, and artistic expression of, one's sensuous, emotional, intellectual, and social experiences are also a part of the daily life of every man and not only of the life of the philosopher and the artist—of every man, at least, who rises even for a moment above the level of the animal or the human tool. It is thus one master's experience so as to use it in practical situations. As Croce says, "There is no intuition without expression." This oversight is partly responsible for the reaction of many educationalists against practice in the so-called "rhetorical" forms of discourse—this failure to see that thought and feeling undirected to utilitarian ends are in themselves functions of life, and probably one of its highest modes. There must be a sensitive plate before there can be a photograph, and a great deal of the most valuable English instruction, especially in composition, consists in sensitizing the human plate. Another cause of the revolt against the rhetorical forms of discourse is failure to see that these old, cut-and-dried forms *are* utilitarian. Ask the pupils in any class to list what they do in the course of a day's conversation, and they will record that they describe, narrate, explain, and argue. The only way to become an entertaining or stimulating conversationalist is to learn the trick of doing these things easily and well, and that takes minute, detailed, technical practice. No piece of music consists entirely of scales, arpeggios, trills, or chords; on the other hand, no one could ever play the piano who had not perfected those techniques. The trouble with the uninspired teacher has been that his topics for practice exercises in the forms of rhetorical discourse have been too often divorced from children's interests and experience and that the perfected skill has been seldom applied in the classroom to life-situations where the pupil gets a sense of why, where, and how to use it. I am sure that Professor Lyman does not expect practice in the forms of discourse to cease, though his language might occasionally be so construed by the casual reader of some passages in which he draws a distinction between functional and rhetorical centers of instruction. He is surely merely recalling to their functional uses these

tools which have tended to become disassociated from the life out of which textbook-makers originally took them. Description, narration, exposition, and argumentation, as presented in the sort of rhetoric course now condemned by progressive teachers, occupy in relation to life the position suggested by Mr. Dooley's comment on the operatic version of the story of Salome. "It may have come out of the Bible," remarked that too-long-forgotten sage, "but sure it wu'd niver fit in agin."

The fact that things are meaningful and educative only when seen in relation to each other is the underlying principle of all the experiments in correlation discussed in the monograph in the chapters on simple enrichment of the course, informal associations with other subjects, constructive relations with other departments, and actual combinations of courses in English and social studies, English and foreign languages, and English and fine arts. None of these experiments are complete and inclusive, but it is apparent that all over the United States in scattered communities alert teachers have awakened to the need of correlation and that now these and now those sections of the curriculum are being brought into illuminating connection. It remains for some inspired institution to weld all these composite possibilities into a single, systematic, correlated program of education, embracing all subjects of instruction—a program more economical of time, fuller in content, and more impelling as the motivation of a rich and useful life.

This monograph is the outstanding contribution to education by a popular English leader, but its message is, in the end, to every teacher of every subject in the curriculum.

RUTH MARY WEEKS

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Prescription and election in teacher-training curriculums.—The curriculums of teacher-training institutions as well as those of liberal-arts colleges have been seriously challenged during the last decade. Many efforts have recently been made to develop principles and to secure technical information necessary in reorganizing curriculums for prospective teachers. The analysis of the activities of teachers by Charters and Waples (*The Commonwealth Teacher-training Study*) represented one attack on the problem. A radically different type of investigation has been made by Class,¹ who studied in detail the prescriptions and elections in elementary-school teacher-training curriculums for the purpose of determining present practices and their historical backgrounds.

Three fundamental phases of the problem were considered in this study:

(1) The history of the policies of prescription and election in curriculums for training teachers for elementary schools in teachers' colleges and in their forerunners, the normal

¹ Edward C. Class, *Prescription and Election in Elementary-School Teacher-training Curricula in State Teachers Colleges*. Teachers College Contributions to Education, No. 480. New York: Teachers College, Columbia University, 1931. Pp. x+92 \$1 50.

school. (2) A study of trends, techniques, and present practices with regard to prescription and election in these curriculums. (3) A comparison of present practices in the curriculums of teachers' colleges in the United States with those in the curriculums of similar institutions in Germany, France, and England, and with those in schools of law and nursing [p. 1].

Practices with respect to prescription and election are presented for four different periods, namely, the pre-normal-school period, the early and the later normal-school periods, and the period since 1900. The chief sources of data consulted were catalogues of the institutions and periodicals, yearbooks, and reports of special studies. Various limitations to the study are pointed out by the investigator, such as the possible inaccuracies of information secured from catalogues.

As a result of the analysis of the data collected, several significant trends were identified: (1) the persistence from the beginning of certain subjects in the training curriculums for elementary-school teachers (such as arithmetic, geography, United States history, drawing, music, general method, and practice teaching); (2) the elimination of certain content subjects of a secondary-school type as teacher-training institutions established themselves on the college level; (3) the addition to the two-year curriculums of such subjects as child psychology, educational psychology, introduction to education, nature-study, and literature for children. The following are other important issues to which the findings relate: the nature of the subjects which characterize three-year and four-year curriculums, the relative amounts of prescription and election, the length of curriculums and academic entrance requirements, the kinds and the amounts of the various subject departments represented in curriculums, and comparisons of training curriculums for elementary-school teachers in this country with those in Germany, England, and France.

The recommendations included in the final chapter are very interesting and merit serious consideration. In many cases, however, the recommendations are not based directly on the evidence secured but represent the investigator's personal views concerning important issues. These recommendations are supplemented by a list of three challenging problems which merit early investigation. The report, therefore, contains much valuable information of both practical and theoretical interest to those concerned with the reconstruction of professional curriculums for teachers.

WILLIAM S. GRAY

An introduction to teaching.—Since the publication of Judd's epoch-making work *Introduction to the Scientific Study of Education*, we have had a large number of new books designed to give the teacher in training a sense of direction and perspective before he is plunged into intensive study of any single phase of the teacher-training curriculum. Different authors have tried to give this bird's-eye view of education in different ways and with varying degrees of success, but the

general tendency has been to treat a wide range of topics, from philosophy to administration, and from discipline to safety education.

A new work of this type,¹ by Adams and Taylor, has been added to the list of excellent works already available. It is a book for orientation rather than a book on methods only. Perhaps the second half of the title may be slightly misleading to some persons, as it apparently suggests that the volume might be used as a textbook in the courses in methods of teaching. The reviewer feels that there is a definite body of practical material on how to teach, which deserves more thorough treatment than is given in this work and which may well furnish the content of a later course to follow that served by the book now under discussion. Even in 668 pages it is difficult to give enough attention to assignment technique, to the use of projects and activities, to visual aids, to questioning, to lesson-planning, etc., if chapters are also devoted to such topics as school finance, supervision, the school plant, vocational education, and educational research.

The authors show a good understanding of college undergraduates. The selection of content and the style of expression are both admirably suited to the interests of those who are to use the book. Frequent use of bits of poetry or other well-selected literary gems has helped to vitalize and humanize what is already unusually vital and human.

The reviewer likes the book and believes that it will serve a useful purpose in the training of teachers.

C. C. CRAWFORD

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A book for primary teachers.—A textbook² for teachers in training and a handbook for teachers in service in the first three grades has recently been prepared by Dorothy Bildersee, principal in a New York City school. This book, which covers the teaching of reading, arithmetic, writing, spelling, music, art, and health habits, has been written to give practical help to teachers who are handling large classes with limited supplies and space. After an explanation of the general principles on which specific methods are based, the author deals separately with each of the subjects included. For each subject there is a review of the underlying psychology, a definition of the aims and objectives, an analysis of difficulties, a detailed treatment of the methods of teaching, and a presentation of diagnostic tests and remedial measures. "Every part of the work is richly supplied with practical suggestions for actual classroom procedure" (p. vii).

The author has attempted to carry progressive ideals into the field of the primary-grade teacher in so far as they are applicable and advantageous, and to a large extent she has succeeded. In these days of "child-centered schools,"

¹ Jesse E. Adams and William S. Taylor, *An Introduction to Education and the Teaching Process*. New York: Macmillan Co., 1932. Pp. x+668. \$2.50.

² Dorothy Bildersee, *Teaching the Primary Grades*. New York: D. Appleton & Co., 1932. Pp. xx+332. \$2.00.

"activity curriculums," and "projects," it is good to find a principal giving to teachers of large groups and limited advantages the following advice:

There are many experiences that the child should have, both in the kindergarten and in the first year. In fact, a great many of the following suggestions should be made use of throughout the first three years. In order to have something to express, there must first be impression. Children should have excursions provided for them. . . . Plants and pets in the classroom provide the child with things to observe and to handle [p. 35].

The author also advises teachers to encourage children to dramatize the activities of the home, of industry, and of the community. In the chapter on written expression she says: "In spite of the fact that written composition is an unnatural form of expression for many children, it is possible to find interesting activities that provide adequate motivation. Many projects call for written work" (p. 148). She explains just how the children's various activities may be made to function in providing the necessary motives. In the chapter on number the author writes: "Throughout this work the school activities of the children should be utilized as much as possible. Real situations calling for quantitative experiences are numerous" (p. 210). Here again, the author illustrates the types of teaching which are desirable.

As has been suggested, this book deals with specific methods as well as with ideals. "An attempt has been made to adapt, for the use of such teachers [teachers of large classes], methods that have been developed in the experimental schools" (p. vii). Thus, in the chapters on the teaching of reading, of phonics, and of number, there are reported the results of scientific investigations of methods in these subjects and examples from expert classroom teaching which demonstrate the application of the investigators' findings to the classwork. Many good games are suggested for the drill periods in connection with these subjects. For example, the following excellent games are included in the chapter entitled "Diagnostic Testing and Remedial Work in Arithmetic": playing store, lotto, a card game, and puzzles. It is disappointing to find among these childlike games such artificial devices and games as the fishing pond, stage coach, and drop the handkerchief. These last three games are time-consuming as well as unnatural. For the most part, however, experienced and inexperienced teachers will find these chapters extremely helpful, for the methods suggested are sane and reliable.

The content of the work in the primary grades is suggested for each of the subjects covered in the book. The author tells just what to teach as well as how to teach it. Here again, she has been guided by the results of scientific investigations. For example, in the chapter on phonics an important part of the content of the work suggested for the first and the second grades is that which has been contributed through the studies of Vogel, Jacox, and Washburne, and of Ducker. Similarly, in spelling, the readers are referred to the studies of Jones, Ayres, and Gates, and the lists compiled by these investigators are suggested, among others, as satisfactory sources of spelling words. In the work with fractions the author

states that the children should be given the concept of one-half, then of one-third, and next of one-fourth. The reviewer wonders why this order has been used when every primary teacher knows that one-third is much more difficult for children than one-fourth.

This book should be valuable to the teachers for whom it has been prepared because it is practical, conservative, timely, comprehensive, and in every respect a good investment.

ADA R. POLKINGHORNE

Supervising the creative teacher.—The frequency with which the term "creative" is emphasized in recent educational literature is significant. It is one aspect of a general reaction against the tendency toward regimentation in modern educational procedure. The techniques of mass production and of the efficiency expert have been used by the educational administrator to such an extent that in many respects the progress of a child through a school system resembles the assembling of a low-priced automobile. Supervisory procedures formulated with a view to increasing educational efficiency have frequently disregarded the human element in education and relegated the teacher to a position of blind "followership." A strong protest against this tendency is voiced in the current yearbook of the Department of Supervisors and Directors of Instruction of the National Education Association.¹

The committee responsible for the yearbook recognizes that one of the principal problems which supervisors have to solve is that of furnishing the leadership, initiative, and originality required of them without at the same time discouraging the development of these traits on the part of the teachers. It further recognizes that furnishing opportunities to teachers for the development of initiative and creative effort is not only desirable but should be an outstanding objective of supervision. In the treatment of this problem the yearbook has been divided into two parts. The first part consists in a general exposition of definitions, aims, principles, and procedures of supervision the object of which is the encouragement of initiative among the teachers. The second part consists in a series of case studies selected from the kindergarten and the elementary- and secondary-school fields with a view to exemplifying desirable procedures for stimulating teachers to creative effort.

Chapter I, written by L. Thomas Hopkins, opens with a discussion of the term "creative" as an educational concept. The sociological meaning of a creative act, as an original production of something of exceptional and outstanding merit when measured by group standards, is contrasted with the psychological meaning of the term, as applied in educational literature to the production of something new or superior when measured by the past achievement of the person.

¹ *Supervision and the Creative Teacher*. Fifth Yearbook of the Department of Supervisors and Directors of Instruction of the National Education Association. New York: Teachers College, Columbia University, 1932. Pp. x+348.

Recognition of both definitions is held to be necessary to an adequate understanding of creative supervision. According to this point of view, and other criteria set forth, an act is creative: (1) if it is initiated by the creator under conditions permitting freedom, (2) if it appears in the realm of ideas rather than in the field of mechanical activities, (3) if it is the product of a relaxed organism, and (4) if it is subject to habituation. It is also held that the creative act is usually brought about through outside stimulation, that the inner emotional satisfaction which accompanies creative activity is strengthened by external recognition, that creative values expand with the development of superior techniques and persistent efforts toward constructive outcomes, and that creativeness flourishes under sympathetic and intelligent criticism.

Eight principles of supervision designed to encourage creative teaching are set forth by Philip W. L. Cox in chapter ii. The validity of the principles was established by applying them to a successful supervisory project which had been reported without knowledge of the principles. In brief, the principles as given in the summary chapter are:

1. Supervision for creative teaching helps teachers in setting up and achieving their own teaching objectives.
2. Supervision for creative teaching stimulates, guides, and rewards worth-while activities.
3. The integration of the teacher's personality is fundamental.
4. Minor innovations and successes deserve first consideration.
5. Self-supervision is an inherent quality of the creative artist.
6. Understanding and skill in creative teaching are achieved gradually and progressively.
7. The support and encouragement of creative teaching are potentially present among community groups and school officials.
8. The creative teacher receives personal satisfaction and should be given wide recognition for creative teaching [p. 292].

In chapter iii Fred C. Ayer sets forth certain supervisory procedures that may be used in encouraging and directing the creative efforts of teachers. He treats this topic under three headings: the recognition of creative activities, the stimulation of creative activities, and the methods of spreading creative discoveries. The supervisory activities recommended for stimulating creative work are "(1) direction of professional reading and study, (2) holding of special conferences, (3) promotion of committee projects, (4) encouragement in thesis-writing, (5) revision of curriculum, (6) assignment of experimentation, and (7) development of official routine" (p. 42). The procedures recommended for spreading creative discoveries are (1) auditorium demonstrations, (2) classroom demonstrations, (3) school exhibits, (4) intervisitation of teachers, and (5) publication of descriptions of creative activities.

The case studies presented in the second part of the yearbook are rich in suggestions for supervisors who wish to encourage and direct the initiative of teachers. Not all the suggestions can be commended, and supervisors are warned

to evaluate them in terms of their own philosophy of education. For some time supervisors and teachers have been thinking of creative work almost entirely in terms of curriculum construction, and the emphasis on creative projects of other types is commendable. It is probable that the limitations of the teacher-made curriculum are being recognized.

The educational philosophy underlying the yearbook is that of the child-centered school applied to teacher-supervisor relations, and the verbiage of this school pervades the book. One wonders whether such statements as "The enriching life, happiness, and education are one and the same thing" (p. 289) are more potent in clarifying than in confusing educational thinking.

WALTER W. COOK

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Social history of the American colonies.—The publication in book form of thirteen essays originally published in various periodicals has brought before the public a valuable monograph on an important phase of American Colonial history.¹

Each chapter presents a careful treatment of the subject under consideration. The treatment is not so full as one would wish for; however, the author in his Introduction states that "chapters here presented are studies illustrative of, rather than a history of, the subject as a whole" (p. xi). The copious notes direct the student to the most important primary and secondary sources. The author spared no effort in getting at the important original sources.

Much has been written about slavery as a part of an agricultural system. In the first chapter of this volume Professor Jernegan calls our attention to "slavery and industrialism" and produces abundant evidence to show that the negro slaves were used not only as agricultural laborers but also as coopers, carpenters, masons, blacksmiths, wheelwrights, mechanics, etc. "It is certain also that the negro slave artisan was an important agency in the commercial development of the southern colonies" (p. 22).

In the chapter on the religious instruction and conversion of negro slaves, the author points out that little was accomplished along this line, that the number converted to Christianity was small compared to the total number of slaves. He says, "It is evident that much of the difficulty lay in the system of slavery itself" (p. 43). The point raised here presents an interesting subject for further investigation.

In a brief chapter on the indentured servant many interesting points are developed. The harshness and the cruelty of the system are emphasized. It is

¹ Marcus Wilson Jernegan, *Laboring and Dependent Classes in Colonial America, 1607-1783: Studies of the Economic, Educational, and Social Significance of Slaves, Servants, Apprentices, and Poor Folk*. Chicago: University of Chicago Press, 1931. Pp. xiv+256. \$3.00.

noted that the system relieved Great Britain of her undesirable citizens but that, on the whole, the effects were beneficial to all concerned.

Eight chapters are devoted to various aspects of education. Among the topics treated are the following: influences promoting free education, the beginnings of free public schools, educational legislation, compulsory education, and education in the South. These chapters present both a clear analysis of the influences promoting education and a careful consideration of the historic background. Numerous important sources were consulted to establish such facts as those relative to the first schoolmaster to be chosen and the first town school to be established. The differences between the development of the educational institutions in New England and those of the South, especially in Virginia, are well brought out; the causes for these differences are attributed to different geographic, economic, social, and political conditions.

In the last two chapters public poor relief is discussed. The systems which developed in Virginia and in New England, respectively, are historically traced. In these chapters, as well as in the earlier chapters, the author not only gives the facts but also explains the movements which gave rise to these facts.

This volume should be of interest to students of education as well as to students of history. Because of the scholarly treatment of these somewhat neglected phases of our history, this volume should find a place in every college and high-school library.

FREMONT P. WIRTH

GEORGE PEABODY COLLEGE FOR TEACHERS
NASHVILLE, TENNESSEE

The story of the United States in the twentieth century for younger pupils.—During the past decade there has been much emphasis on the value of history in helping younger pupils get a view of the outstanding problems of today in their historic setting. This emphasis has begun to bear fruit in the form of books on the history of the United States since 1900. Two such books are here reviewed.¹

The volume by Weinberg is organized in terms of units of understanding. The titles of the units in the order of treatment are as follows: "The Machine Enters History," "The Quest for Prosperity," "Conserving Resources. Social Problems of the Machine Age," "International Problems, or the Quest for Peace," and "The American People and Government." Each of these units is organized in terms of its elements, a chapter being devoted to each element. Those interested in emphasizing matters of current interest will find much new material in this book. The unit entitled "The Quest for Prosperity" contains chapters on

¹ a) Louis Weinberg, *America in the Machine Age: The United States in the Twentieth Century and the Outstanding Problems of Today*. Boston: D. C. Heath & Co., 1932. Pp. vi+346. \$1.00

b) J. R. Scoppa, *Life in the Twentieth Century*. Chicago. Laidlaw Bros., 1931. Pp. 294

the American farmer, American labor, and the American business man. This material is presented in an interesting and attractive manner. Besides the reading material there are enough maps and illustrations to make the treatment concrete. The unit on conserving resources has material on conserving health resources, human resources, and natural resources. The unit on the American people and government contains chapters devoted to the American people, the American government, and American culture. The titles of the other two units suggest their contents.

Besides illustrations and maps the book is equipped with the customary teaching aids, such as activities, self-testing devices, and workbook suggestions. These appear at the end of each chapter. Graphs appear here and there throughout the discussion. A bibliography, arranged by chapters, appears at the end of the general discussion just before the Appendix, which contains the United States Constitution.

The volume by Scoppa treats the United States in the twentieth century in a manner somewhat different from Weinberg's treatment. The emphasis here is on but four phases of American life in the twentieth century. These, as stated in the Table of Contents, are: "How Immigration Became a Problem," "How Discoveries and Inventions Aided National Progress," "Political Development during the Twentieth Century," and "The World War." Two chapters are devoted to the first of these topics, three each to the second and third, and four to the fourth. The last chapter is devoted to a summary of the entire book in the form of a short story.

This book is not organized in terms of units of understanding, the term "section" being used to name the largest divisions. There are four of these sections, each of which is organized in chapters. A feature of each chapter is an introduction which attempts to give the essence of the chapter in terms of its relation to present-day conditions. Besides this introductory material each chapter is followed by a review and summary. This part of the chapter aims to point out the meaning and the significance of the entire chapter to present-day life. The foregoing features of each chapter furnish excellent integrating material.

Besides the teaching devices mentioned, which are integral parts of the content, there appear at the end of each chapter test exercises and activities. Reference material is given in connection with the suggested activities. A general test for each of the four sections appears at the end.

No mention is made in either of the foregoing books of the grade or grades for which it is intended. The latter volume seems to the reviewer a little more advanced than the former. Inasmuch as these volumes contain much new material, they could be used with advantage in both the junior and the senior high schools. Teachers in these schools who wish to emphasize present-day life in the United States will do well to add these books to their classroom libraries.

R. M. TRYON

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY
AND PRACTICE

- BOOK, WILLIAM F. *Economy and Technique of Learning*. Boston: D. C. Heath & Co., 1932. Pp. x+534. \$2.00.
- BREWER, JOHN M. *Education as Guidance: An Examination of the Possibilities of a Curriculum in Terms of Life Activities, in Elementary and Secondary School and College*. New York: Macmillan Co., 1932. Pp. x+668. \$2.75.
- HAMRIN, SHIRLEY AUSTIN. *Organization and Administrative Control in High Schools*. Northwestern University Contributions to Education, School of Education Series, No. 6. Evanston, Illinois: School of Education, Northwestern University, 1932. Pp. x+150.
- Major Units in the Social Studies for the Intermediate Grades*. Edited by Charles W. Waddell, Corinne A. Seeds, and Natalie White. New York: John Day Co., 1932. Pp. 390.
- MELVIN, A. GORDON. *The Technique of Progressive Teaching*. New York: John Day Co., 1932. Pp. x+406. \$2.95.
- Provision for the Individual in College Education*. Proceedings of the Institute for Administrative Officers of Higher Institutions, 1932, Vol. IV. Edited by William S. Gray. Chicago: University of Chicago Press, 1932. Pp. viii+262. \$2.00.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL
TEACHERS AND PUPILS

- HARTMAN, GERTRUDE. *These United States and How They Came To Be*. New York: Macmillan Co., 1932. Pp. vi+336. \$5.00.
- MARSH, LUCILE, and MARSH, AGNES. *Educational Dance Series: Ten Graded Dances*. New York: J. Fischer & Bro., 1932. Pp. 8. \$3.00.
- MAXWELL, PAUL AMMON. *Cultural Natural Science for the Junior High School: Objectives and Procedures*. Baltimore: Williams & Wilkins Co., 1932. Pp. xiv+82 and Supplement (Junior High School Science Manual). \$2.00.
- NEAL, ELMA A., and FOSTER, INEZ. *Study-Period Exercises for Developing Reading Skills: Grade Four, Grade Five, Grade Six*. Chicago: Laidlaw Bros., 1932.
- OLCOTT, VIRGINIA. *Karl and Gretel: Children of the Fatherland*. Newark, New Jersey: Silver, Burdett & Co., 1932. Pp. viii+168. \$0.80.
- PHILLIPS, WENDELL CHRISTOPHER, and ROWELL, HUGH GRANT. *Your Hearing: How To Preserve and Aid It*. New York: D. Appleton & Co., 1932. Pp. xiv+232. \$2.00.
- Suggested Course of Study in the Social Studies for Elementary Schools*. State of California Department of Education Bulletin, No. 13, Part III. Sacramento, California: State Department of Education, 1932. Pp. vi+238.

- Training School Course of Study: Kindergarten, First, Second, and Third Grades.* Bulletin of the State Teachers College, Vol. XIX, No. 1. Farmville, Virginia: State Teachers College, 1932. Pp. 238. \$1.00.
- WILSON, GUY M. *My Addition Drill Book*, pp. vi+56, \$0.32; *My Subtraction Drill Book* (Borrowing or Decomposition Method), pp. vi+48, \$0.32. New York: Macmillan Co., 1932.

PUBLICATIONS OF THE UNITED STATES OFFICE OF EDUCATION
AND OTHER MATERIAL IN PAMPHLET FORM

- HAEFNER, RALPH; REINHARDT, EMMA; and BEU, FRANK A. *Changes in the Student Body during a Five-Year Period, 1925-1930.* Teachers College Bulletin No. 118. Charleston, Illinois: Eastern Illinois State Teachers College, 1932. Pp. 40.
- LOOFBOUROW, GRAHAM C. *Test Materials for Problem Behavior Tendencies in Junior High School Boys.* University of California Publications in Education, Vol. VII, No. 1. Berkeley, California: University of California Press, 1932. Pp. 62. \$1.25.

Recent issues of the Office of Education:

- Bulletin No. 24, 1930 (Supplement)—*Accredited Secondary Schools in the United States* (Supersedes supplement published in 1931).
- Bulletin No. 20, 1931—*Biennial Survey of Education in the United States, 1928-1930*: Vol. II, Chap. VI, Statistics of Public High Schools, 1929-30
- Leaflet No. 43 (1932)—*Elementary School Principals: Some Data on Their Education, Experience, and Salaries*, by Walter S. Deffenbaugh
- Tests of Intelligence and Aptitude*, Review of Educational Research, Vol. II, No. 4. Washington: American Educational Research Association of the National Education Association, 1932. Pp. 271-342. \$1.00.

MISCELLANEOUS PUBLICATIONS

- Annual Report of the Board of Regents of the Smithsonian Institution Showing the Operations, Expenditures, and Condition of the Institution for the Year Ending June 30, 1931.* Washington: Government Printing Office, 1932. Pp. xiv+592.
- HERRICK, C. JUDSON. *The Thinking Machine.* Chicago: University of Chicago Press, 1932 (revised). Pp. xii+374. \$3.00.
- HUNTER, EARLE L. *A Sociological Analysis of Certain Types of Patriotism: A Study of Certain Patriotic Attitudes, Particularly as These Appear in Peace-Time Controversies in the United States.* New York: Earle L. Hunter (69 Tiemann Place), 1932. Pp. 264. \$2.50.

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THE UNIVERSITY OF CHICAGO
Chicago, Illinois

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Educational News and Editorial Comment

PROSPECTUS OF THE LISTS OF SELECTED REFERENCES

In September announcement was made that the *Elementary School Journal* and the *School Review* would add a new feature by joining in the publication of a series of selected references in education. The series will, in effect, continue the service provided in the quarterly *Record of Current Educational Publications*, which the United States Office of Education was forced by measures of economy to discontinue. Plans for the series now being complete, it is possible to announce the full cycle of twenty lists projected for the twenty issues of the two journals for the calendar year beginning in January, 1933, and the names of the thirty-five specialists in eleven different institutions collaborating in the whole project. (In the lists given later the institution is indicated only for specialists not connected with the University of Chicago.)

In accordance with the earlier announcement, the complete cycle will give readers access to lists of the best writings in practically the whole field of education. The lists will include articles in periodicals, books, and important bulletins or monographs and will extend be-

yond reports of investigations to include illuminating discussions and descriptions of non-investigative character. The scope and significance of the items will be indicated in brief annotations

The following is the portion of the cycle to be published in the *Elementary School Journal*. The first of these lists appears in the current number.

January and February:

Public-School Administration

W. C. Reavis and N. B. Henry

March:

Preschool and Parental Education

Florence L. Goodenough, University of Minnesota

April:

Kindergarten-Primary Education

Katherine McLaughlin, University of California at Los Angeles

May:

Education of Exceptional Children

Leta S. Hollingworth, Teachers College, Columbia University

June:

Foreign Education

J. F. Abel, Chief, Division of Foreign School Systems, United States
Office of Education

September:

Elementary-School Instruction, I. Curriculum, Methods of Teaching and
Study, and Supervision

Leo J. Brueckner, University of Minnesota

October:

Elementary-School Instruction, II. The Subject Fields

Newton Edwards, with the collaboration of—

William S. Gray (Reading)

R. L. Lyman (English)

F. S. Breed (Spelling)

Frank N. Freeman (Handwriting)

R. M. Tryon (The Social Studies)

Edith P. Parker (Geography)

November:

Elementary-School Instruction, III. The Subject Fields—Continued

Newton Edwards, with the collaboration of—

Guy T. Buswell (Arithmetic)

S. Ralph Powers, Teachers College, Columbia University (Science)

Anne E. Pierce, University of Iowa (Music)
W. G. Whitford (Art)
L. B. Sharp (Physical Education and Play)
Homer J. Smith, University of Minnesota (Industrial Arts)
Beulah I. Coon, Federal Board for Vocational Education (Home Economics)
Evangeline Colburn (Library Training)

December:

Education of Teachers
William S. Gray

The following lists will appear in the *School Review*.

January:

Secondary-School Instruction, I. Curriculum, Methods of Teaching and Study, and Supervision
Leonard V. Koos

February:

Secondary-School Instruction, II. The Subject Fields
Leonard V. Koos, with the collaboration of—
R. L. Lyman (English)
R. M. Tryon (The Social Studies)
Edith P. Parker (Geography)
Wilbur L. Beauchamp (Science)
Ernst R. Breslich (Mathematics)
Helen M. Eddy, University of Iowa (Foreign Language)

March:

Secondary-School Instruction, III. The Subject Fields—Continued
Leonard V. Koos, with the collaboration of—
Homer J. Smith, University of Minnesota (Industrial and Vocational Arts)
Sherman Dickinson, University of Missouri (Agriculture)
Clara M. Brown, University of Minnesota (Home Economics)
Frederick J. Weersing, University of Southern California (Commercial Subjects)
Anne E. Pierce, University of Iowa (Music)
W. G. Whitford (Art)
L. B. Sharp (Physical Education)

April:

The Extra-Curriculum
Paul W. Terry, University of Alabama

May:

Educational Psychology
Frank N. Freeman and Guy T. Buswell

June:

Measurement and Statistics

Karl J. Holzinger

September:

Guidance

Percival W. Hutson, University of Pittsburgh

October:

Secondary-School Organization

Grayson N. Kefauver, Stanford University

November:

Secondary-School Administration

Grayson N. Kefauver, Stanford University

December:

Higher Education

Floyd W. Reeves and John Dale Russell

"THE SWORD OVER EDUCATION"

In the December issue of the *Elementary School Journal* there was published a statement by President Hutchins, of the University of Chicago, in which he set forth briefly his views with respect to the cost of government and the support of education in this country. The following statement on the same general topic by President Glenn Frank, of the University of Wisconsin, was published in a recent number of the *Wisconsin Journal of Education*.

A sword hangs over education in Wisconsin and throughout the nation. To prevent that sword from sinking to the vitals of the whole enterprise of education, builded of the blood and sacrifice of pioneers, will demand the utmost of statesmanlike co-operation between the leadership of school and the leadership of society. This sword is but sign and symbol of the peril that confronts all of the social and cultural enterprises of our common life in this phase of profound economic depression through which we and the world are passing.

I want to state, with the utmost brevity, just what this peril is and to define, if I can, the problem it puts alike to the leadership of school and the leadership of society.

The sword that hangs over education and the other social enterprises of government is the sword of imperative retrenchment forged in the fires of an irrational depression. The peril lies not so much in the existence of the sword as in the way we may wield it.

That economy, drastic beyond anything we have been accustomed to think, is imperative in the conduct of local, state, and national affairs no intelligent man will question. Since 1929 our income has gone steadily down and our outgo

has gone steadily up. The expenditures of local, state, and national government, when related to the toboggan slide down which the national income has raced, have bent the back of the American people. Either the back must be strengthened or the burden must be lightened. For a nation cannot long endure a consistently falling income and a consistently rising outgo.

It is confessedly a critical situation that confronts us. A year ago Americans were putting slightly less than one out of every four dollars they earned into the enterprises and obligations of local, state, and national government. When the books of the current year are balanced, we may find that we have surrendered one out of every three dollars of income to the enterprises and obligations of government. According to the publications of the Wisconsin Taxpayers Alliance, in 1928 approximately 11 per cent of the national income went into taxes to carry the enterprises and obligations of government. In the current year, 1932, it is estimated that approximately 33 per cent of the national income will go into taxes to carry the enterprises and obligations of government. There are those who would have us believe that this dramatic leap of the tax draft on national income from 11 per cent to 33 per cent in four years is due solely to an unintelligent and unjustified development of the public services of organized government. That misconception must be exposed at the outset unless public thinking on the scientific, social, and educational enterprises of government is to be gravely muddled and grossly misled.

The man in the street, hearing of this rise in the tax draft on national income from 11 per cent to 33 per cent in four years, is all too likely to think that the cost of the public services of government has trebled in that time. Obviously that is not true. Had the national income even remained steady at the 1928 level, the tax draft on national income would today be about 18 per cent instead of 33 per cent. The factor that lifts it to 33 per cent is the dramatic drop in the national income due to the economic muddling that landed us in the current depression.

I am quite aware that this does not remove the stubborn fact that a 33 per cent tax draft on national income is a serious matter with which political, social, and economic leadership must wrestle. It does, however, suggest that the blame for the large proportion of the national income now going into taxes cannot justly be placed upon the shoulders of social and educational leadership, but must, to a very material degree, be placed squarely upon the shoulders of the economic leadership that proved incapable of steering our economic ship past the shoals of depression.

Unless this fact is kept clear, we shall see an uninterrupted increase in a type of propaganda that will brand even the most self-sacrificing public servants as greedy and grasping pay-rollers, a now popular sort of propaganda which, if persisted in, will divert men of capacity and self-respect from public service for a generation to come.

Do not misunderstand me. Upon the fact of the imperative necessity for economy in public expenditures there can be no disagreement. I insist only that

the situation challenges us to effect that economy with statesmanlike foresight for the future of community, state, and nation. It is possible to be quite as short-sighted in administering economy as in allowing extravagances. And just because there is this possibility of short-sightedness in the administration of necessary economy a grave national danger lurks in our current concern with economy. We can so easily economize blindly or let limited interests dictate the schedules of retrenchment. We dare not be gullible. Alongside the foresight, intelligence, and sincerity behind the insistence that we establish a sounder relation between our income and our outgo, there is much blindness, blundering, self-interest, and sheer insincerity in the almost hysterical campaign against public expenditures now sweeping the nation. By all means let us give prudence a permanent seat in our public counsels. By all means let us stop waste. But let us be sure that it is real waste that we are stopping. Real economy may mean national salvation. Bogus economy may mean national suicide.

I ask you to remember that we could dismantle every federal bureau and stop every civil function of the national government—with the four exceptions of construction, relief, loans for shipbuilding, and the Federal Farm Board—and still reduce the federal budget by only 8 per cent. The complete cost of the legislative, executive, and judicial activities of the federal government absorbs less than two-thirds of one per cent of the total federal outlay. Where then, you may ask, does all the money go? Well, for one thing, almost three-fourths of the total expenditures of the federal government go to pay the costs of our current military establishment and to carry the obligations incurred in past wars. That is to say, of every dollar we pay in taxes to the federal government about 75 cents go into payment for past wars and preparation against future wars. Think of that the next time you are tempted to applaud the blatherskite or jingo who denounces every intelligent attempt to outlaw war as puling pacifism.

The more deeply we analyze the problem of public expenditures, the clearer it becomes that it simply is not the scientific, social, and educational services of the nation that are bending the American back. And yet, throughout the nation, we are trying to balance budgets by cutting the very heart out of the only things that make government a creative social agency. We slash scientific bureaus. We drastically shrink our support of social services. We hamstring our regulatory agencies. We fire visiting nurses. We starve libraries. We reduce hospital staffs. We squeeze education. And we call this economy. And actually think we are intelligent in calling it that. How the gods must be laughing at us! And how our grandchildren will damn us!

While we are bleeding white the only things that make government socially significant, we go gaily on with political and economic policies that are surely setting the stage for further wars and thus fastening securely upon us three-fourths or more of the existing federal budget. And state governments throughout the nation are committing the same blind sin. In our states we lay the ax at the root of the tree of all the civilizing agencies evolved during the last half-

century and at the same time blandly tolerate the multitude of unnecessary and criminally wasteful forms of local government which, essential and unavoidable in the days of bottomless mud roads and the one-horse buggy, are indefensible in this day of good roads, automobiles, telephones, radio, and the varied new forces that have conquered both time and distance. We could balance the state budget of Wisconsin and make unnecessary the surrender or starvation of a single socially significant service if we had the vision and courage to effect an intelligent reform of our system of local government. But to effect real economies of that sort is to call for a sort of thought and action we have yet to display.

The real issue confronting us is not economy versus extravagance. That question is well on its way to settlement. Leaders who foster extravagance will be broken. The issue is real economy versus bogus economy. The sword that hangs over education and all the other social and cultural enterprises of government is the danger of bogus economy.

In the achievement and administration of real economy every responsible school man must stand ready to co-operate with the leadership of community, state, and nation. If even one drop of water can be found in any educational stock, now is the time to dehydrate. If there is anywhere in our schools a service that has measurably outlived its usefulness, now is the time to eliminate it. If there is anywhere anything that has been overdeveloped, any phase of our program that has been overspecialized, any over-coddling of the student where we might properly ask him to indulge in a little more self-education, now is the time to correct such errors. Now is the time to declare a moratorium on vested interests and vested ideas that may, in more normal times, have slowed down healthy processes of educational reconstruction.

But even so utterly sincere and statesmanlike a facing of the challenge to real economy as I have suggested may leave the future of education seriously endangered throughout the nation. It will not be enough to foster real economy. Bogus economy must be fought. Not to save their own skins or to safeguard their salaries, but to discharge their responsibility to the American future, educators, once they have come with clean hands on the issue of real economy, must be willing to put their breasts to the guns in the battle against bogus economy.

There is under way a high-powered drive, national in scope and manned by able leaders who are determined drastically to slash the national bill for education at any cost. It is important for all Americans who want to see the significance of education for the national future safeguarded to understand the forces back of this drive. The more obvious forces back of this drive are, I think, three, namely: (1) the epidemic of fear that grips the nation as it watches its income fall lower and lower, (2) the weakness of a taxation system that, in most places, puts an undue part of the tax load on real and personal property, and prompts millions of harassed Americans to strike blindly out for relief without any too much discrimination about what they hit; (3) groups which have always been opposed to adequate support for education and are now taking advantage of the

real necessity for economy and the epidemic of fear to achieve their niggardly and antisocial objective.

I suggest three broad lines along which I think educators are obligated to move if they are to discharge their responsibility to the future of community, state, and nation.

1. Educators should see to it that the teaching profession and the public are put in possession of all the pertinent facts about any short-sighted and anti-social forces that may be operating in an uncritical drive against educational expenditures.

This is not to say, let me make sun clear, that educators should set themselves in opposition to sound economies. It is only to say that they must not permit, if they can prevent it, a blind assault on the enterprise of education by limited and antisocial interests bent upon taking advantage of the time to slash the heart out of education in the cold interest of their pocketbooks.

2. Educators should meet an unfair propagandizing of the public with a wise education of the public in the actual facts of the situation.

Thousands upon thousands of honest Americans, who have always been the friends of education, have been bewildered by propagandists during the last few months. There is, make no mistake about it, an organized drive of national scope to cut educational support below anything that even this difficult time requires. If the bewildered friends of education are not enlightened, the propagandists will be able to get away with a high-handed scuttling of the educational ship instead of buckling down to the unpopular task of fundamental governmental and economic readjustments which, in cutting costs, might reduce the supply of pork.

3. Educators should meet the situation with offensive rather than merely defensive tactics.

I mean by this that now is the time of all times to go to the public with far-sighted educational programs the importance of which to the future of community, state, and nation can but be clear to sincere intelligence. To huddle defensively around services without a searching appeal is never justified. In a time of stress it is a kind of social treason. Now, if ever, is the time to make manifest to all the central significance of a creative education in the life of a great people.

DEAN RUSSELL'S REPORT

In his annual report Dean Russell, of Teachers College, Columbia University, discusses at some length the relation of the school to the social order. The burden of his remarks is that, until a decision is made with respect to the kind of social order we shall have, it is impossible to "plan a system of education suited to the needs of society." After tracing in some detail the quest for social justice, Dean Russell concludes his report with the following paragraphs.

So the seekers for social justice find themselves at the start of another journey. They have toiled along the road toward democracy. They have climbed the heights of plenty. They are arriving at the destination of *laissez faire*. The motives that brought them along this journey, based on self-interest and self-seeking, set free in this new world are about to destroy all the gains that have been made. The forked roads lie ahead. Down one branch lies the planned civilization autocratically arranged to curb the self-interest of ignorant men. Down the other lies democracy, hoping to achieve the same results by education. Which road will America take?

Until this question is answered, we cannot plan a system of education suited to the needs of society, nor can we properly train the teachers that the future will need. So long as democracy—political, social, and economic—is our goal, we know that education must be universal, that opportunity must be equal for all, that the citizens of the future must be capable of meeting the situations of life upon the plane of reason, that our leaders must be selected upon a merit basis from every walk of life, and that reforms and changes of policy must emerge from the people themselves and not be handed down by dictate of higher authority. Our people must be alert, questioning, and fearful of oppression. However, if it is decided that an economic autocracy, or a technocracy, is the only solution to our ills, and that social justice in the machine age can come only from this form of government, then schoolmasters have an altogether different task. Education for all will be restricted to provision of the elements common to the general vocations and most needed in the usual walks of life. Special opportunities will be reserved for the few. The great mass of the people will be taught to follow, to comply with orders, cheerfully to do as directed. Subservience and obedience will be the goal. Technocrats will map the course. The people must follow. A technocracy will demand one type of citizen; a democracy quite another; and upon the choice that America must make in its advance toward social justice will depend our attitude toward who shall teach, whom, what, and how we teach, what shall be the life of the school, and how it shall be controlled and supported.

Let us hope that we choose the democratic road; that we have the faith that the motives of men can be remade; that more may gain wisdom, and that educational means may be discovered whereby the enthusiasms of our people may be so aroused and their interests so stimulated that competing and getting and winning and defeating will seem small indeed. Then we shall have the wisdom to plan our future. Then we shall have the disinterestedness to avoid war. It will not be the dictator from without who will compel us, but rather interest and wisdom from within which will lead us. The task for our scholars in general and Teachers College in particular is to lead the way, not only in the research and study which we prosecute and in the plans for education which we devise, but in the example which we as an institution and as individuals show to the world.

A REPORT ON CURRENT METHODS IN TECHNICAL EDUCATION

The following statement was published in the *Chicago Tribune*.

Graduates of technical schools who are trained by rule-of-thumb methods or who claim highly specialized interests are no longer sought by American industries. This fact and other objections to present methods in technical education were revealed in a report made public yesterday by James D. Cunningham, chairman of the trustees of Armour Institute [of Technology] and former president of the Illinois Manufacturers' Association.

The report was written by a committee of the institute after a research into the personnel needs of sixty nationally known industries. The interviews with the personnel heads of the industrial concerns, cited in the report, show great unanimity among employers of technical men as to what is wrong with current technical education methods. Concerns investigated by the Armour group include industries requiring a large number of technically trained men.

Citing the recommendations of specific industries on the training deemed desirable for men who can meet [the] industries' needs, Mr. Cunningham said that in practically every case the demand was for diversification rather than specialization.

"For instance," Mr. Cunningham said, "it would be natural to suppose that specifications for men for the Western Electric Company would call for men trained in this or that electrical-engineering specialty. But on the contrary the call was for a more generalized technical training. It appears that most large industrial concerns prefer to take men with broad technical and scientific foundations and train them themselves for the local industries' special demands."

Other concerns among the sixty investigated include Acme Steel Company, the Atchison, Topeka, and Santa Fe Railroad, the Central Scientific Company, General Electric, John Griffiths & Son Company, Illinois Tool Works, International Harvester, and the Illinois Bell Telephone Company.

These as well as all other employers of technical graduates were in complete agreement in the demand for greater diversification. This agreement was summarized as follows: "Most specialized knowledge is never used."

Mr. Cunningham explained that, while the student was devoting himself almost exclusively to his specialty, he was virtually excluding diversified interests and particularly that group of subjects known as the "humanities." He pointed out that it is through channels of expression and correlation offered by widespread interests and through the humanities that the graduate is able to give profitable expression to his technical training.

In view of the findings of the committee, Mr. Cunningham said that Armour Institute would launch a movement which practically will reverse the emphasis in technical education of the past generation.

"We have a mandate from those who employ our graduates," said Mr. Cunningham "They tell technical educators they must diversify and pay greater attention to human elements as well."

Mr. Cunningham said that lack of imagination was found to be one of the greatest faults of technical graduates. Another was that technical graduates frequently "*do not understand the practical application of the theories they have learned.*" This, said Mr. Cunningham, is a direct result of a small range of interests.

"A third fault specified by manufacturers is also related to this narrowness," said Mr. Cunningham. "It is that so many graduates lack direction and energy. These usually result from the emotional defect of a small vision."

Other faults mentioned were inadequate powers of observation, lack of appreciation of the value of other than engineering work, immature judgment, and tendency toward inaccuracy.

The report suggested that students of technology give more consideration to such studies as English composition and literature, commercial law, economics, sociology, psychology, and philosophy. A leading charge against the typical technical graduate was that he believes he can get on in his profession without the ability to use clear-cut English. The report points out that the student cannot substitute graphs and blue prints for adequate use of language.

The new Armour plan, Mr. Cunningham said, looks to the widening scope of curricular interests and also suggests a widening of the interest ranges of instructors and professors as well. It will also develop teaching methods which aid students to think for themselves.

"We had complaints from employers of technical graduates," said Mr. Cunningham, "which ranged from 'They won't think if they can possibly avoid it, and even then not logically,' to 'The greatest asset a man can have is mental curiosity, which can and should be developed in college.'"

To overcome this it is proposed that a faculty counselor be provided for every student. This "tutorial plan" is spreading in favor throughout the country, Mr. Cunningham said.

A MONOGRAPH ON THE STATE INCOME TAX

Students of public finance have long pointed out the injustice of a tax system that requires real property to bear a disproportionate burden of the cost of governmental enterprises. Within the past few years it should have become patent to nearly everyone that such a system of taxation is not only unjust but that it is unworkable. New forms of taxation must be discovered, or many essential public enterprises must be abandoned or curtailed. Within recent years the income tax has become a very popular form of taxation. In the beginning of 1929 only fifteen states had such a tax. Since that date ten other states have enacted income-tax legislation, and within the past two years seven states have extended the operation of laws already in force.

In view of the urgent need of tax reform, the publication of a recent monograph by Roy G. Blakey, entitled *The State Income Tax* (reprinted from *Taxation in Minnesota*, University of Minnesota Studies in Economics and Business, Number 4), is especially timely. In the first part of the monograph Professor Blakey discusses what constitutes a good tax system. The major part of the monograph, however, is devoted to a discussion of the state income tax. Such topics as the following are treated: growth of the income-tax movement, chief features of state income taxes, administration of income taxes, and operation and effects of income taxes. The monograph also contains a brief bibliography.

THE PUBLIC ADMINISTRATION CLEARING HOUSE

In 1931 an organization known as the Public Administration Clearing House was organized. The purpose of this organization is described as follows:

The Public Administration Clearing House was established in 1931 to serve as an exchange for information, experience, and ideas among organizations of public officials and others in the United States and Canada which are engaged in the active work of planning for improvements in the administrative technique of government.

It has been financed for its ordinary needs by special grants of funds so that it makes no general appeal for memberships or contributions. It exercises care not to engage in any activity that is being carried on by any existing organization. It has no political objectives, no political schemes or plans to advocate or to oppose. Its sole purpose is to facilitate the exchange of knowledge and experience useful to public administrators.

The Clearing House has recently published a *Directory of Organizations in the Field of Public Administration*. The directory includes only the organizations whose activities are national, state, or regional in scope. A variety of information is given about each organization including an account of its activities and a description of its publications. This directory should prove especially helpful to school superintendents and to research workers in the field of school administration. The book can be secured from the office of the Public Administration Clearing House, 850 East Fifty-eighth Street, Chicago, at a price of one dollar.

RELATION OF PUBLIC-SCHOOL SUPPORT TO SUBSEQUENT PER CAPITA WEALTH OF STATES. I

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The opinion has been prevalent throughout the United States for more than a century that adequate public schools are essential, not only to the social welfare, but also to the material progress of the nation. This attitude has been a contributing factor in the great expansion of public education in this country. Enlargement of the work of the public schools and, consequently, increases in expenditures to maintain the schools have been particularly rapid during the last forty years. During this same period there has been an immense advancement in the economic wealth of the United States. It is of considerable importance to determine whether the popular impression with regard to the influence of public schools on economic development is well founded. The variation in school expenditures among the states provides one fairly satisfactory basis for studying the effect of school support on subsequent changes in wealth.

It is generally known that states ranking high in per capita school expenditures also rank high in per capita wealth and that states ranking low in school expenditures likewise rank low in wealth. The mere fact of the correlation does not, however, indicate which variable has been the important factor affecting the other, nor does it definitely prove that either factor actually causes the other. School expenditures may have led to the development of wealth; wealth may have been the principal factor affecting school expenditures; a causal interdependence may extend in both directions; or some extraneous factor may account for the relationship.

The close association between per capita school expenditures and per capita wealth could be the result of climate or of geographical location. Per capita school expenditures are highest in the northern

and the western states and lowest in the southeastern states. Consequently, if there were something in the climate or the natural resources, irrespective of school support, conducive to the rapid development of wealth in the North and the West and to the slow development of wealth in the South, a positive correlation between school expenditures and wealth would result. Variation in per capita school expenditures would in such a case be a concomitant rather than a causal factor.

Another limitation on the use of per capita expenditures as a measure of school support is that the purchasing power of the dollar varies greatly in different sections of the country. It is not possible, however, to express expenditures in terms of purchasing power because no adequate index of the cost of living for states as units is available.

The percentage of wealth expended annually for schools is an index of school support which indicates fairly well the burden on the taxpayer. Moreover, it provides in some measure for differences in living costs, as price levels appear to vary roughly with the per capita wealth of the states.¹ The use of this index places the southern states in a more nearly competitive position with the northern and the western states. Although it is beyond the financial means of the southern states to spend as much per capita as do the more wealthy states, some of the southern states are actually found to rank above the average of the country in the proportion of their wealth expended for schools. The percentage of income might be somewhat better than percentage of wealth as an index of school support if it were possible to secure data concerning income over a sufficiently long period. If the bearing of school support on the development of wealth is to be determined, it is necessary to study the relationship over a long period, and adequate income reports have been compiled only within the last fifteen years.

The study reported in this article is an attempt to use such indices of wealth for the different states at different periods of time in a

¹ Although cost of living indices are not available for states as units, Section II of *Sales Management* for October, 1931, gives for 1929 an index of cost of living in each city of the United States having a population of more than ten thousand. There is a correlation of .76 between the averages of these indices by states and per capita wealth for 1929 reported by the National Industrial Conference Board.

series of comparative analyses designed to show the relation between wealth and school support. The data concerning wealth were obtained from the *Statistical Abstract of the United States*, an annual publication of the United States Department of Commerce, and from reports of the National Industrial Conference Board. The Department of Commerce made a survey of tangible wealth in the various states for 1890, 1900, 1904, 1912, and 1922. The survey for 1932 is now in progress, but the report will probably not be published for a year or more. Data on wealth for 1928, 1929, and 1930 were taken from Bulletins Nos. 51 (1931) and 62 (1932) of the Na-

TABLE I
PERCENTAGE OF WEALTH EXPENDED FOR SCHOOLS IN 1890
CORRELATED WITH CHANGES IN PER CAPITA WEALTH
OF STATES IN SUBSEQUENT PERIODS

PERIOD	CORRELATION WITH—	
	Absolute or Dollar Change in per Capita Wealth	Percentage of Change in per Capita Wealth
1890 to 1900	$50 \pm .07$	$.57 \pm .07$
1900 to 1912	$.39 \pm .08$	$.25 \pm .09$
1912 to 1922	$-.01 \pm .10$	$-.08 \pm .10$
1922 to 1930	$.04 \pm .10$	$.11 \pm .10$

tional Industrial Conference Board. The expenditures for public schools were taken from the *Statistical Abstract* and from the annual reports of the United States Commissioner of Education.

In an examination of the bearing of school support on the wealth of the states, changes in the subsequent per capita wealth may be considered (1) in terms of absolute change in the number of dollars or (2) in terms of relative change, that is, the percentage of change. The correlations between the percentage of wealth expended for public schools in the various states in 1890 and these two forms of subsequent change in per capita wealth are presented in Table I. The correlations between school support and both forms of change in wealth during the period from 1890 to 1900 are high enough to indicate a significant positive relation. The correlations between school support and changes occurring from 1900 to 1912 are somewhat lower. School support in 1890, however, shows no significant

correlations with changes in per capita wealth during the periods from 1912 to 1922 and from 1922 to 1930.

The relation of school support in 1890 to subsequent per capita wealth is shown graphically in Figure 1. The forty-eight states were divided into two equal groups according to the percentage of wealth

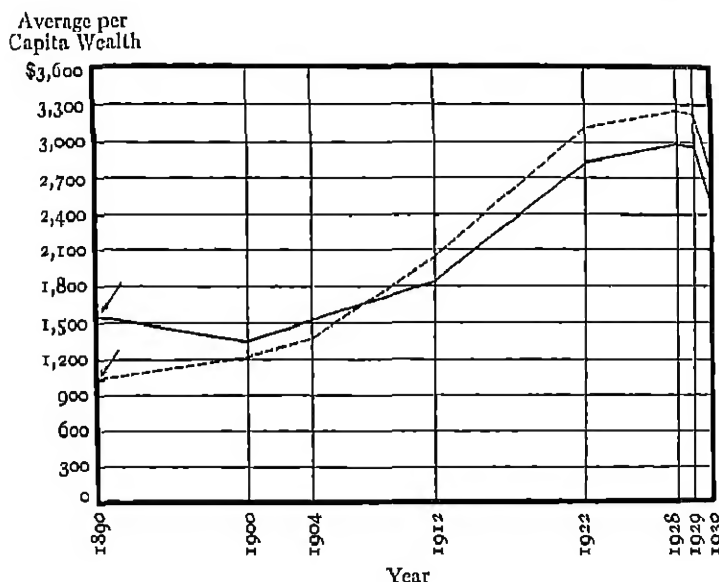


FIG. 1.—Average per capita wealth from 1890 to 1930 in the twenty-four states in the upper half (broken line) and the twenty-four states in the lower half (solid line) when the states are divided according to the percentage of their wealth expended for public schools in 1890. The average expenditure for schools in 1890 was 0.238 per cent of their wealth in the upper half of the states and 0.134 per cent of their wealth in the lower half. (The arrows indicate the year for which the division was made.)

expended for public schools in 1890. The average per capita wealth for the twenty-four states of the upper group in the proportion of wealth expended for schools was in 1890 slightly below the average for the twenty-four states of the lower group. Between 1890 and 1900, however, the states providing more ample support for their schools gained \$172 in average per capita wealth, while the group rating low in school support actually lost \$179. By 1912 the average per capita wealth of the group of states ranking high in school support in 1890 had advanced beyond the average of the other group.

The lines representing the respective averages from 1912 to 1930 remain approximately parallel.

Comparison of the average per capita wealth in the two groups of states represented in Figure 1 confirms the indications of the correlation coefficients in Table I. Apparently, the percentage of wealth expended for schools in 1890 had a significant positive bearing on changes in the per capita wealth of the states from 1890 to 1912. Those states ranking high in school support in 1890 experienced a much greater increase in per capita wealth during the subsequent twenty-two years than did the states ranking low in school support at the beginning of the period. After 1912, however, the extent of school support in 1890 appears no longer to have borne an important relation to changes in per capita wealth. Two factors must be taken into account in considering the length of time during which school support appears to have an influence on subsequent changes in wealth.

First, it is not possible to determine the exact period of influence merely by subtracting the dates. It would seem at first glance that school expenditures of 1890 had begun to have a marked effect on wealth within a period of ten years, but such is not necessarily the case. It is quite likely that for several years prior to 1890 the various states held approximately the same relative positions, with respect to the percentage of wealth expended for schools, that they held in 1890. If so, the basis of the relation shown for the period from 1890 to 1900 might have existed a few years before 1890. A reasonable interpretation is that the period represented by the coefficients of .50 and .57 in Table I is ten years or more. A similar allowance should be made when the other periods are considered. It should not be presumed that the influence of school support in 1890 had entirely disappeared in twenty-two years. The period of influence is at least twenty-two years in length, since it may have begun before 1890 and extended beyond 1912. Moreover, it is reasonable to infer that the effect of school support in 1890 on subsequent changes in per capita wealth of states did not extend over a period much longer than thirty-two years, as the relation had become insignificant by 1922.

Second, migration from state to state must be taken into consid-

eration. The proportion of persons having been educated in a particular state still residing in that state in any particular year becomes less as time passes. For example, the percentage of persons who in 1912 were residing in the state in which they had been educated was less than the corresponding percentage for 1900. By 1922 the percentage was still less. Many of those educated in any particular state in 1890 had within twenty or thirty years moved to other states, where they were making their contributions to the development of wealth. The effect of this factor of migration is to cause the relation between school support and subsequent changes in wealth to become less as the period of time increases.

Moreover, the influence of school support on subsequent wealth probably makes itself effective chiefly through community development rather than through the personal success of educated persons. Obviously, the best educated persons are not always the most wealthy, although the average of the wealth of educated persons is apparently greater than the average of the wealth of persons with less education. It appears, however, that well-educated persons make the greatest contributions to community development. Furthermore, good schools probably lead a community toward co-operation, invention, and pride in achievement, which conduce to the development of wealth. On account of these various factors, it may be presumed that the period during which schools affect the wealth of a state will differ somewhat from the period during which education will influence the material success of an individual.

The correlations between school support in 1900 and changes in per capita wealth during preceding and subsequent periods are shown in Table II. It is interesting to observe that the percentage of wealth expended for schools in 1900 has no significant relation to changes in the per capita wealth of the states during the decade immediately preceding the time of the expenditures. There are, however, definite positive correlations for the period immediately following the expenditures. Although financial support of schools in 1890 apparently had an influence on changes in per capita wealth of the states for a period extending over at least twenty-two years, school support of 1900 appears not to have had an effect over such a long period. It seems to have had no appreciable influence on

wealth during the second period following the time of the expenditures, from 1912 to 1922, as the correlations for this period are negative ($-.03$ and $-.15$), although so low as not to be significant. In the case of school support of 1890, however, the corresponding corre-

TABLE II
PERCENTAGE OF WEALTH EXPENDED FOR SCHOOLS IN 1900
CORRELATED WITH CHANGES IN PER CAPITA WEALTH
OF STATES IN PERIODS FROM 1890 TO 1930

PERIOD	CORRELATION WITH—	
	Absolute or Dollar Change in per Capita Wealth	Percentage of Change in per Capita Wealth
1890 to 1900	$.03 \pm .10$	$.02 \pm .10$
1900 to 1912	$.53 \pm .07$	$.31 \pm .09$
1912 to 1922	$-.03 \pm .10$	$-.15 \pm .09$
1922 to 1930	$.06 \pm .10$	$.19 \pm .09$

lations for the second period after that year, 1900-1912, are $.39$ and $.25$. There is considerable probability that this difference in the length of time over which school support affected subsequent changes in wealth has no significance, as it may have arisen purely by chance. It is possible, however, that this difference is an illustra-

TABLE III
CORRELATION BETWEEN PERCENTAGE OF WEALTH EXPENDED BY THE STATES FOR PUBLIC SCHOOLS IN
DIFFERENT YEARS

Periods Compared	Correlation
1890 with 1900	$.61 \pm .06$
1900 with 1912	$.29 \pm .09$
1912 with 1922	$.40 \pm .08$
1922 with 1930	$.40 \pm .08$

tion of the lag of public education behind the needs of a rapidly changing civilization. At any rate, the correlations for the different periods presented in Table III show that the percentage of wealth expended by the various states for public schools in 1900 bears a far higher relation to the percentage expended in 1890 than it bears to the percentage for 1912. If the proportion of wealth expended for public schools may be presumed to reflect the character of school

work in the various states, the data indicate that the schools of 1900 were far more like the schools of 1890 than they were like those of 1912 so far as differences among the states are concerned. Between 1900 and 1912 great changes occurred in the ranks of the states in school support, as is indicated by the low correlation for these two years. From 1912 to 1922 and from 1922 to 1930, the changes were also greater than those which occurred from 1890 to 1900, but the differences are not large enough to be considered particularly significant.

It is possible that the kind of education provided by the states in 1890 and 1900, while advantageous to the citizens for the period up to 1912, was not such as to fit them for the immense changes that occurred in the industrial life of the country between 1912 and 1922. At least, the percentage of wealth expended for schools in those years has no significant relation to changes in per capita wealth of the states during this latter period. As will be shown later, however, financial support provided for schools in 1912 has a positive relation to changes in wealth from 1912 to 1922. It may be that states which in 1912 expended large proportions of their wealth on public education had so improved their schools through the additional expenditures since 1900 as to enable them to lead in the increase of wealth during the period of the World War.

Figure 2 shows essentially the same relation between school support of 1900 and changes in per capita wealth as is indicated by the correlations in Table II. The fact that the lines representing the two groups of states are nearly parallel for the period from 1890 to 1900 confirms the indication of no essential correlation shown by the coefficients of .03 and .02. It should be noted also that the lines remain practically parallel for the period from 1900 to 1904—a fact which indicates that school support of 1900 had not begun to have a noticeable effect within four years. By 1912, however, the average per capita wealth of states ranking high in school support had advanced considerably beyond the average of those ranking low in school support. This result is a confirmation of the coefficients of .53 and .31 shown in Table II for the period.

In one respect Figure 2 does not exactly agree with the correlations in Table II. For the period from 1912 to 1922 the correlations

show a slight negative relation, while the figure shows a gain in per capita wealth for the upper group of states greater than the gain for the lower group. The apparent discrepancy arises from the fact that the correlations take into account the deviations of the separate states from the arithmetic mean, whereas the lines in Figure 2 are

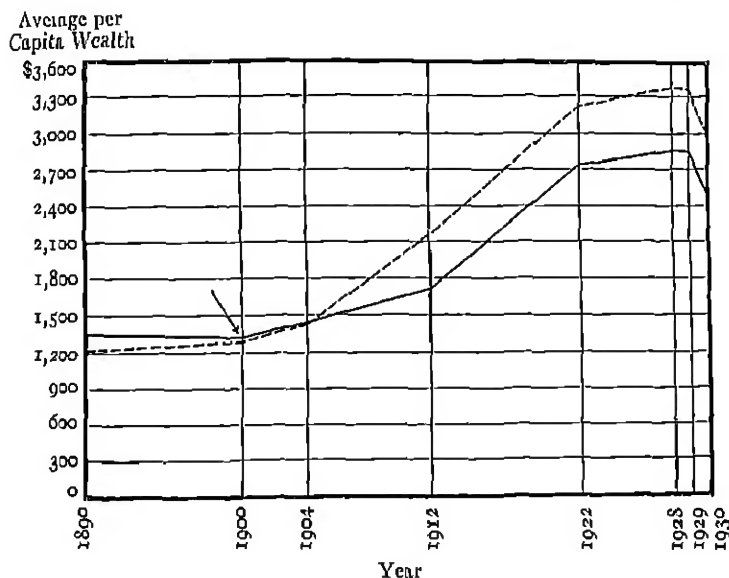


FIG. 2.—Average per capita wealth from 1890 to 1930 in the twenty-four states in the upper half (broken line) and the twenty-four states in the lower half (solid line) when the states are divided according to the percentage of their wealth expended for public schools in 1900. The average expenditure for schools in 1900 was 0.258 per cent of their wealth in the upper half of the states and 0.175 per cent of their wealth in the lower half. (The arrow indicates the year for which the division was made.)

based on the averages in per capita wealth of the states when divided into two classifications according to the proportion of their wealth expended for public schools in 1900. However, the relation shown by either method is so slight as to indicate that school support in 1900 probably had no significant bearing on changes in per capita wealth during the period from 1912 to 1922.

The correlations presented in Table IV agree with the results shown graphically in Figure 3. The correlations between school support in 1912 and changes in per capita wealth during the preced-

ing periods are negative. The correlations are positive, however, for periods following the time of the expenditures. In this case a group of states which had been lagging behind in the development of

TABLE IV
PERCENTAGE OF WEALTH EXPENDED FOR SCHOOLS IN 1912
CORRELATED WITH CHANGES IN PER CAPITA WEALTH
OF STATES DURING PERIODS FROM 1890 TO 1930

PERIOD	CORRELATION WITH—	
	Absolute or Dollar Change in per Capita Wealth	Percentage of Change in per Capita Wealth
1890 to 1900	-.26 ± .09	- 17 ± .09
1900 to 1912	-.17 ± .09	- 37 ± .08
1912 to 1922 .....	.32 ± .09	.27 ± .09
1922 to 1930 .....	.22 ± .09	.26 ± .09

Average per
Capita Wealth

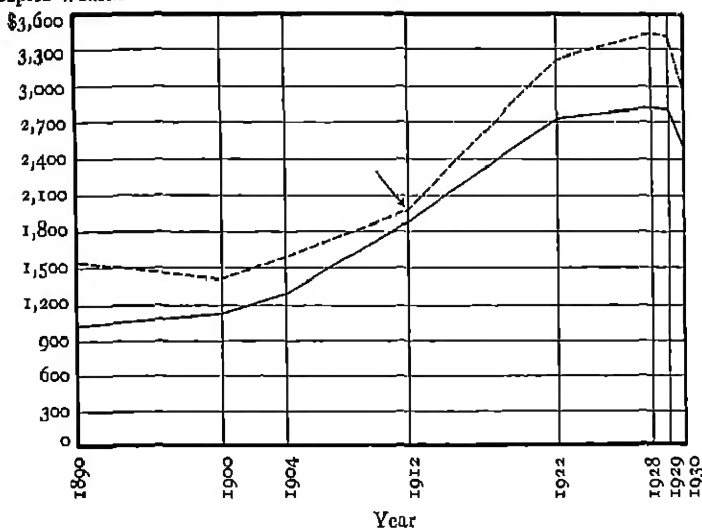


FIG. 3.—Average per capita wealth from 1890 to 1930 in the twenty-four states in the upper half (broken line) and the twenty-four states in the lower half (solid line) when the states are divided according to the percentage of their wealth expended for public schools in 1912. The average expenditure for schools in 1912 was 0.318 per cent of their wealth in the upper half of the states and 0.220 per cent of their wealth in the lower half. (The arrow indicates the year for which the division was made.)

wealth from 1890 to 1912 began to forge ahead when, as a group, they had increased the percentage of their wealth expended for the support of public schools. During 1930 the average per capita wealth

TABLE V

AVERAGE PER CAPITA WEALTH FROM 1890 TO 1930 IN THE STATES WHEN DIVIDED INTO TWO EQUAL GROUPS ACCORDING TO THE PROPORTION OF THEIR WEALTH EXPENDED FOR PUBLIC SCHOOLS IN 1890, 1900, AND 1912, RESPECTIVELY

BASIS OF DIVISION AND YEARS COMPARED	AVERAGE IN UPPER HALF OF STATES			AVERAGE IN LOWER HALF OF STATES		
	Per Capita Wealth	Increase over Base Year	Percentage of Increase	Per Capita Wealth	Increase over Base Year	Percentage of Increase
Proportion of wealth expended for public schools in 1890:						
1890	\$1,038			\$1,549		
1900	1,210	\$ 172	17	1,370	—\$ 179	— 12
1904	1,377	339	33	1,516	— 33	— 2
1912	2,034	996	96	1,833	284	18
1922	3,103	2,065	199	2,830	1,281	83
1928	3,258	2,220	214	2,988	1,439	93
1929	3,236	2,198	212	2,966	1,417	91
1930	2,903	1,865	180	2,657	1,108	72
Proportion of wealth expended for public schools in 1900:						
1890	1,226			1,361		
1900	1,271			1,309		
1904	1,445	174	14	1,448	139	11
1912	2,161	890	70	1,706	397	30
1922	3,209	1,938	152	2,724	1,415	108
1928	3,375	2,104	166	2,871	1,562	119
1929	3,354	2,083	164	2,848	1,539	118
1930	3,026	1,755	138	2,534	1,225	94
Proportion of wealth expended for public schools in 1912:						
1890	1,545			1,042		
1900	1,431			1,149		
1904	1,592			1,301		
1912	1,979			1,888		
1922	3,217	1,238	63	2,716	828	44
1928	3,434	1,455	74	2,812	924	49
1929	3,408	1,420	72	2,791	906	48
1930	3,013	1,034	52	2,547	659	35

of the group of states ranking high in school support in 1912 declined slightly more than did the average of the other group. Apparently, therefore, the education of 1912 began to lose its influence on changes in wealth during the early stages of the present financial depression.

STATES ARRANGED IN ORDER OF THE PERCENTAGE OF
WEALTH EXPENDED FOR SUPPORT OF PUBLIC
SCHOOLS IN 1890, 1900, AND 1912

1890	1900	1912
UPPER HALF		
Massachusetts	Vermont	Idaho
Iowa	Massachusetts	Utah
Kansas	Indiana	Vermont
South Dakota	West Virginia	Massachusetts
Ohio	Colorado	New Jersey
Vermont	Washington	Washington
West Virginia	South Dakota	Michigan
Connecticut	North Dakota	Ohio
Nebraska	Connecticut	Indiana
New Hampshire	Michigan	Maine
Maine	Nebraska	South Dakota
Indiana	Ohio	Montana
Michigan	Utah	Oregon
Minnesota	New York	Arizona
Mississippi	Iowa	Florida
Illinois	Oregon	Kentucky
Missouri	Illinois	Tennessee
New Jersey	Maine	California
Arkansas	Mississippi	Colorado
Pennsylvania	Kansas	Minnesota
Wisconsin	Missouri	New Hampshire
California	New Jersey	Wyoming
New York	Arkansas	Wisconsin
Virginia	Pennsylvania	Connecticut
LOWER HALF		
North Dakota	Wisconsin	Missouri
Kentucky	Florida	North Dakota
Maryland	Kentucky	Pennsylvania
Rhode Island	Minnesota	Georgia
Tennessee	New Hampshire	Kansas
Delaware	Rhode Island	Nebraska
Oklahoma	California	Oklahoma
Louisiana	Delaware	Rhode Island
Colorado	Georgia	Louisiana
Texas	Maryland	Mississippi
Alabama	South Carolina	New York
Georgia	Texas	Arkansas
Oregon	Tennessee	Illinois
Florida	Virginia	New Mexico
Washington	Oklahoma	North Carolina
Wyoming	Montana	Texas
North Carolina	Idaho	Virginia
South Carolina	Louisiana	West Virginia
Utah	North Carolina	Delaware
Arizona	New Mexico	Iowa
Nevada	Alabama	South Carolina
Montana	Nevada	Alabama
Idaho	Arizona	Maryland
New Mexico	Wyoming	Nevada

Figures 1, 2, and 3 show, however, that, after the upper group of states in each case had ceased to make further gains over the lower group, the former still retained most of the gains previously made.

The data from which Figures 1, 2, and 3 were prepared are given in Table V.

The list of states constituting the upper and the lower groups when divided according to the percentage of wealth expended for public schools, which is shown on page 344, reveals for a few of the states a marked change in position from 1890 to 1900 and a still greater change from 1900 to 1912. Five of the states which had been in the upper half in 1890 were in 1900 displaced by an equal number from the lower half. Between 1900 and 1912 there was an interchange of eleven states from one group to the other. This change in the composition of the two groups from period to period gives representation in each group to different sections of the country and offsets to some extent the influence of climate and natural resources as extraneous factors.

Although the relations here indicated suggest that school support in terms of the percentage of wealth expended probably has been a causal factor affecting subsequent changes in per capita wealth of the states, further study should be given the problem to determine the extent to which various other factors may be involved.

[To be concluded]

DIAGNOSTIC AND REMEDIAL READING. II

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In the first of the two articles dealing with diagnostic and remedial reading, which appeared in the preceding issue of the *Elementary School Journal*, a bibliography of the subject and a critical review of the literature dealing with some of the causes of reading deficiency were given. A review of the literature dealing with (1) other causes of reading deficiencies, (2) methods of diagnosis, and (3) the treatment and the prognosis of severe reading disability follow.

FURTHER CAUSES OF READING DEFICIENCIES

Heredity.—Considerable evidence indicating the possibility of inheritable factors in extreme reading disability has been adduced by Hinshelwood (71),¹ Warburg (169), Wallin (168), Dearborn (97), Hincks (70), Freeman (48), Plate (136), Hollingworth (79), and others. Surely there is enough suggestion of inheritance to repay more critical study of these factors.

Cerebral dominance.—During recent years there has been an increasing tendency among some groups of investigators to relate extreme reading disability to certain physiological factors underlying specific types of behavior. These behavior patterns are manifested in mirror-writing, left-handedness, ambidexterity, mirror-reading, left-eyedness, and the like. Evidence has been cited and arguments assembled which indicate that all these conditions may be intimately related to cerebral dominance. Orton and Dearborn seem to have arrived independently at somewhat similar points of view. Orton first stated his views in 1925 (123). These views have been amplified in several later papers (124, 125, 126, 127) and have been put to experimental test by Orton's student, Monroe (117). According to

¹ Numbers in parentheses refer to the numbered bibliography in the December number of the *Elementary School Journal*. In the case of quotations page references also are given.

Orton, the fact that letter reversals and sinistral reading of letter groups or whole words seem to characterize all cases of extremely deficient readers suggests that mnemonic records of letters and words exist in the brain in both dextral and sinistral orientations, one in each hemisphere. If, when one tries to read, the recalled image does not correspond to the presented symbol, confusion results. Learning to read, Orton says, involves attending to and selecting the memory images in one hemisphere (the dominant). Marked persistence of reversals in reading disability suggests that the memory patterns in both hemispheres are potential enough to allow either right or left sequence of letters to follow when presented stimuli (letters in words) are compared with the memory images. This condition would lead to confusion and delay in response which might well result in error in speech and writing. Where there is marked cerebral dominance, usually manifested by either dominant right- or left-handedness, *the child ordinarily has no difficulty in learning to read.* Children, however, who are neither dominantly right- nor left-handed at the time of beginning to learn to read probably make more mistakes involving letter reversals than children who are clearly right- or left-handed. According to Orton, reading disability is explainable as a variant in the establishment of the physiological lead in the hemispheres (123), although he admits that other factors may be involved in certain cases.

Working independently of Orton, Dearborn (33, 34) found that the most commonly observed errors made by persons with severe reading disabilities were reversals of individual letters and also of whole words. Mirror-writing and a tendency to tackle words from the wrong end in tachistoscopic reading were very often associated with the disability. Apparently cerebral dominance was involved. Dearborn says that, "in order to avoid difficulties in reading and writing, one should be either left-eyed and left-handed, or right-eyed and right-handed, and preferably the latter. Difficulties appear especially in children who have been 'changed over' in handedness or whose one-sidedness or lateral dominance has never been well established" (34: 633). In the latter condition conflicting tendencies in attempting to read cause faulty word images with letters interchanged to be stored up in the mind. Later these faulty images

make "prompt and precise recognition of words difficult or almost impossible" (34: 633-34). Although cerebral dominance appears to be involved, Dearborn (35) prefers to avoid this term and discusses the aetiology of reading disability in the more objective terms of ocular and manual dominance. The proper eye-movements in reading are from the left to the right. Dearborn's statement that "left-eyed children may tend to move in the opposite direction, to begin at the wrong end of words, or to reverse the order, or even to perceive letters in the wrong way, as in seeing *b* as *d* or 'boy' as 'dog'" (35: 704) may be interpreted to signify that these tendencies are due to eyedness. The writer believes that one is justified in inferring that both left-eyedness and tendencies to sinistral sequences in the perception of words and letters are due to cerebral dominance. Eye-movements tend to be guided by perceptual tendencies rather than vice versa. Gates (49) also finds extreme reading difficulties associated with handedness in a few cases and tends to agree with Dearborn's interpretation.

The evidence justifies the conclusion that bilateral dominance is involved in many cases of extreme reading deficiency. In the practical clinical situation it matters little whether one describes a case in terms of cerebral dominance or ocular and manual dominance. Orton possibly overemphasizes the rôle of cerebral dominance in the aetiology of reading disability, while Gates tends to assign it less value than it may deserve.

Unfortunate habits.—Many investigators have discovered evidence that the development of unfortunate habits plays an important rôle as "inhibiting habits" in reading disability. In Gray's study (62) habits which seemed to prevent normal progress in reading included (1) poor eye-movement habits; (2) use of small perceptual units, such as letter groups or words rather than phrases; and (3) poor reading mechanics. It is probable, however, that in many instances faulty eye-movements are symptoms rather than causes of poor reading. Eye-movement habits are very flexible and adjust themselves readily to any change in reading performance brought about by either improvement or loss of efficiency. Serious disability apparently was not caused by faulty eye-movements in any of the retarded readers included in Gates's study (52). Dearborn

(97) suggests that, while faulty eye-movements are largely the result of poor reading, they may become causes, as "inhibiting habits," of further poor reading. Throughout his reports Gates (49, 52) emphasizes the rôle played in reading deficiencies by unfortunate habits. His list includes the following habits: excessive articulation, use of the finger to keep the place, reading word by word, undue absorption of attention in word recognition, excessive speed, overemphasis on motor skills, and persistence beyond the first reading lessons of piece-meal observation of minute characteristics of words. These defects are not always distinct and independent but usually overlap one another to some degree.

Abnormal emotional-reaction tendencies.—It is a well-recognized fact that emotional instability is frequently associated with marked reading disability. There are two kinds of such cases: (1) those in which a neurotic constitution is a direct cause of the reading disability and (2) those in which the undesirable emotional reactions are caused by lack of success in reading. Hollingworth (80) points out that learning to read calls for co-operation, power of sustained effort, and fidelity to facts. Hence, many neurotics exhibiting impulsive responses, negativistic attitudes, and illusions never learn to read except by individual teaching, and even then progress is often slow. It has been noted by Hincks (70) and others that improvement in reading does not relieve the maladjustment of such cases. Gray (62) shows that lesser degrees of emotional maladjustments—such as nervousness, self-consciousness, and timidity—may hinder progress in learning to read. Gates (49) found that in the case of about 2 per cent of the members of one of his groups reading disability was caused by constitutional nervous and emotional instability.

Several investigators, including Blanchard (15), Gates (49), and Hincks (70), have demonstrated that emotional maladjustment may often be caused by reading disability. In many instances the emotional experiences of a child during his first attempts to read produce undesirable emotional conditioning. Continued lack of success in reading leads to failures in school, which result in a feeling of inferiority in the child. Without acceptable compensations, the child may develop personality and behavior deviations. These deviations are usually rather mild and take the form of inattention, lack

of interest, and an unfavorable attitude toward tasks. Figures cited by Gates (49) show that 82 per cent of a certain group of poor readers manifested unfavorable attitudes toward tasks. In 70 per cent the unfavorable attitudes were probably entirely due to difficulties in reading and in 12 per cent partly due to backwardness in reading. Practically all writers agree that correction or marked improvement of the reading disability ordinarily results in better educational adjustment of such persons. With the substitution of success for failure, the unfortunate behavior traits disappear, and normal attitudes of co-operation develop.

General versus specific deficiencies.—The literature reveals markedly different views concerning the specificity of factors causing reading deficiency when general intelligence is held constant. Certain writers, including Bronner (18), Gray (62), Hincks (70), and Dearborn (97), cite data which they interpret as indicating that reading disability is frequently associated with deficiencies in visual, auditory, or kinesthetic perceptions and memories. These deficiencies are to be considered as general rather than specific. Gates (49), Schmitt (150), Wallin (168), and others question the last-mentioned findings or cite evidence which challenges the interpretations made by the authors. Wallin found no defects in auditory or visual imagery which characterized the subjects with reading deficiency except a possible specific defect in "visual word imagery." In her group of retarded readers Schmitt concluded that "the difficulty in every case consisted in the inability to learn phonics" (150: 687) in the ordinary classroom situation. All her subjects were able to perceive details of words well enough to match words, to point out the difference in two words when one letter was changed, and the like. She considered that the reading disability of her subjects was caused by faulty habits in which the mind, through association, had become set in certain respects. In an extensive investigation Gates (52) did not find a single case in which poor reading was associated with generally inferior perception. The low scores in perception which occurred were due to defects of vision, ocular-motor control, and the like rather than to general perceptual difficulty. The perceptual factor common to reading situations is defined as the ability to perceive clearly the characteristic features of words, and this definition,

of course, makes the common factor rather specific. In another report Gates (49) argues convincingly that reading is not a single general ability but a number of rather special abilities. He points out that an individual may be competent in some forms and not in other forms of reading (49). The fact that reading disability is usually associated with spelling deficiency, as shown by Gates (52), Hollingworth (79), and others, supports the view that the perceptual difficulties involved are rather specific (that is, related to words).

Analyses of other reports, such as those of Fildes (44) and Monroe (117), yield further evidence that reading deficiency is frequently associated with *specific perceptual disabilities*. This trend is supported by the unpublished results obtained from the study of about twenty-six cases of severely retarded readers examined by the writer and his students. It is probable that future investigations will confirm the tentative conclusion that perceptual deficiencies underlying reading disability are specific in character.

METHODS OF DIAGNOSIS

Clinical method of physicians.—Extreme disability in learning to read was first studied and described by medical practitioners. The typical examination of a case is illustrated by Hinshelwood's work (71). After it was ascertained that vision and audition were normal, the diagnosis consisted almost entirely in determining whether the subject was able to read letters, words, numbers, etc. No adequate measures of intelligence were used, and usually no analytical study was made of the subject's performance. From a psychological point of view, the medical diagnoses have been uncontrolled, too general, and consequently inadequate. Hinshelwood and others, however, performed a distinct service in directing attention to the need of diagnosis and remedial treatment of severe cases of reading deficiency.

Use of standardized tests.—Psychologists introduced standardized tests and emphasized analysis and standardized procedures in diagnosing reading disability. Among others, Gates (49), Gray (62), Dearborn (97), and Monroe (116, 117, 118) have been prominent in this movement. In his extensive study Gray employed to good advantage various standardized silent-reading and oral-reading tests

and measures of intelligence. These tests were supplemented with (1) eye-movement records, detailed analyses of word recognition, phonetics, and the like, in order to determine more accurately the exact nature of the difficulty, and (2) complete lists of (a) physical and mental characteristics and (b) home conditions and educational history.

Dearborn and his students (97, 70) supplemented standardized reading tests, pitch-discrimination tests, and intelligence tests with eye-movement records and various tests to measure span of apprehension, visual perception, symbol-learning ability, and the like. To these were added special tests of ocular and manual dominance.

In addition to using standardized intelligence, reading, spelling, and arithmetic tests, Monroe (117) devised and used, with both normal and retarded readers, several special measures for analyzing reading deficiency. These measures included tests of word and letter recognition; tests of recognition of orientation of letters, words, and drawings; and tests of mirror-reading and mirror-writing.

Gates (49), in the light of a considerable amount of experience and investigation, concludes that reading is a composite of several rather specific skills. For diagnosing these capacities he devised and standardized a series of tests which measure such abilities as various aspects of silent reading, word pronunciation, phonetic abilities, spelling, visual perception of various kinds of symbols, visual analysis and recognition, auditory discrimination, associative learning, and handedness (not standardized). For tests of oral reading and intelligence, other standard tests were employed by Gates. In addition, evidence of emotional stability was noted, and a record of home and school history was made.

These and other programs of analysis and the results obtained indicate that the following inventories or measures should be included in any program for diagnosing reading deficiency: (1) home and school history; (2) emotional reactions; (3) a complete analysis of oral- and silent-reading status; (4) ability to recognize and spell words; (5) phonetic ability; (6) intelligence; (7) physical condition, including visual and auditory acuity, ocular-motor control, motor control in speech, and ocular-manual dominance, and (8) recognition of orientation of letters and words. The value of eye-movement

records, measures of the span of apprehension, measures of auditory and visual perception, discrimination, imagination and memory, and associative learning may be seriously questioned. Inefficient eye-movements and a narrow span of apprehension always accompany defective reading habits. These are undoubtedly the effect rather than the cause of the deficiency. Although it has been suggested that habitually poor eye-movements and a narrow span tend to inhibit improvement, we know that eye-movements and span readily adjust themselves to any changes in reading performance and that improvement achieved by attention to other functions is automatically accompanied by more efficient eye-movements and a broader span. It is rather well established that defective perception and discrimination are chiefly of value in indicating possible sensory defects which should have been checked by medical examination. Poor scores in perception and discrimination not related to sensory defects, as well as poor auditory memory and visual imagination, are probably seldom, if ever, important determinants of reading deficiency. Specific deficiency in perceiving words and word-like characters is usually present in reading disability but is only of moderate value in analyzing the cause of the deficiency.

Diagnostic signs of reading deficiency.—Application of the diagnostic methods reveals symptoms that are of value to the clinical worker. Reading disability varies from a slight retardation to extreme disability in which the subject is practically unable to recognize words at all. Retardation of at least one-half year in the first two grades and one year in the upper grades has been considered serious reading disability. As noted in the first of these two articles, mental deficiency is the most important determinant of reading disability; sensory defects account for relatively few cases. Important diagnostic signs include the following: reversing the sequence of letters within words, inability to distinguish orientation of certain letters (as *b* and *d*), inability to distinguish small differences in words or word-like symbols (less valuable than other signs), a tendency to mirror-reading and mirror-writing and a lack of ocular-manual dominance, poor phonetic and spelling ability, emotional instability and unfortunate attitudes, and poor environmental influences. Comprehensive lists of evidences of deficiency, diagnoses, and remedial sug-

gestions are given by Monroe (118), Zirbes (180), and the *Report of the National Committee on Reading* (60). Gates (49) also lists in detail acquired and organic defects leading to reading disability.

REMEDIAL TREATMENT

Remedial treatment for severe reading disability is well typified by the recommendations of Hinshelwood (71), Schmitt (150), Fernald and Keller (43), Gates (49), Gray (62), and Monroe (117, 118). All recognize that, especially in the more severe cases, ordinary classroom teaching is not adequate. Individual instruction by a specially trained teacher is necessary. Anderson and Merton (3, 111) describe a method of individualizing classroom teaching so that the less severe cases may be given remedial instruction in their own rooms.

Hinshelwood (71) found the old-fashioned *a-b-c* method of learning to read effective with all twelve of his cases. The single letters were first learned; then words were mastered by spelling them out loud letter by letter. This spelling-out process was sometimes accompanied by a tracing of the letters on the table with the fingers. In the final stage the words were recognized by their total form alone.

By providing an abundance of new and interesting associations, Schmitt (150) motivated her subjects strongly. All the children were deficient in phonetic ability, and, when this was remedied by special instruction, they made progress in learning to read.

A kinaesthetic method of training non-readers was employed with consistent success by Fernald and Keller (43). An unfamiliar word was written in large script on cardboard or on the blackboard. This word was then traced over with the first two fingers while the child looked at it and pronounced it to himself. When the child considered he knew the word, it was erased and he attempted to write it from memory, saying the syllables as he wrote them. This procedure constituted the first stage of learning. Succeeding stages brought the child in contact with simple sentences, new words in a story, apperception of phrases (flash-card method), and silent reading for content. The subject was encouraged to take the initiative

in choosing reading material. New words that were readily learned continued to be taught by the tracing and writing method.

As part of his research program in reading, Gates (49) has developed a technique for instructing non-readers. Each word to be learned is presented in a variety of contexts, many of which include pictures or the following of printed directions. Provision is made for teaching the meanings of words, phrases, sentences, and paragraphs. Instruction in phonetics, phrasing, and the like is largely intrinsic, a part of an actual reading situation. For the more extreme cases of non-readers Gates has developed a visual study-and-writing (spelling) method of instruction. This method originally consisted in careful observation of a printed word while it was pronounced, attempts to visualize the word during silent articulation, and then writing the word with silent articulation of syllables. In its more recent form Gates's method is like that of Fernald and Keller, but the following important modifications undoubtedly improve the technique: (1) Print-like rather than script characters are used in the writing in order to avoid confusion in going from written to printed reading material. (2) Stimulus material and books are chosen by the teacher rather than by the pupil. (3) Greater stress is placed on similarities and differences in words. (4) Greater use is made of context and less use of flash cards. (5) A close check on comprehension is kept.

Gray (62) has developed and employed various phases of instruction. Included are exercises designed to increase the accuracy of recognition, to increase the span of accurate recognition, to develop ability in effective grouping, to increase the rate of silent reading and the power of interpretation, and to develop effective eye-movements.

An efficient program of remedial instruction has been developed by Monioe (116, 117, 118). This system is based mainly on an effective drill in phonetics, a kinaesthetic method similar to that developed by Fernald and Keller and Gates, and a careful check on comprehension for certain types of errors.

Less severe disabilities have been shown to be rather specific in nature. To remedy these, Gates (49), Gray (62), Zirbes (180), and others have developed special exercises

Analysis of the remedial programs for severe reading disabilities shows that most of the programs are based to a greater or less degree on two fundamental techniques: (1) phonetics and (2) exercises designed to develop a consecutive sequence of perceptual processes from left to right along the line of print. The latter is usually accomplished by the kinaesthetic method. Teaching of phonetics should be largely intrinsic to the reading situation. It has been shown by Freeman (48) that, if phonetics becomes an end in itself, this instruction may actually hinder progress in reading. It is interesting to note that both phonetic training and the kinaesthetic method were employed successfully in crude form for remedial work by Hinshelwood (71) prior to their use by psychologists.

There is no way of knowing at present whether one method is better than another. Radically different techniques used by Schmitt (150), Fernald and Keller (43), and Gates (49) have all been successful. In fact, Dreis (39) found that a combination of these methods produced excellent results. It is the writer's firm belief that any one of these remedial methods, or others that are slightly different, will yield satisfactory results *provided the pupil is sufficiently motivated*. All investigators have realized the importance of desirable motivation and have sought to obtain it by various means. With adequate motivation, the reading disabilities have been overcome to some degree; without such motivation, little progress has been obtained.

In general, the prognosis in cases of reading disability is favorable, with the possible exception of persons who have marked neurotic constitutions. As early as 1917 Hinshelwood (71) suggested that most cases could be helped. With the techniques now available, there are few subjects indeed whose reading ability cannot be improved.

SUMMARY AND CONCLUSIONS

Mental deficiency is the most potent cause of retardation in reading, while sensory defects produce deficiency in only a relatively few cases.

Reading ability is distributed over a normal-distribution curve, at one end of which lie cases manifesting marked inability to profit by ordinary classroom instruction. There is no valid evidence that such extreme reading deficiency is due to a lesion or pathological

condition of the central nervous system. Some cases of severe disability, however, appear to be caused by inheritable factors.

Cerebral (or ocular-manual) dominance appears to be related to reading disability in many instances but is probably not an important determinant in as many cases as Orton (123) suggests.

Unfortunate habits, which tend to be rather specific in character, play an important part in inhibiting normal progress in reading. Unhealthy emotional reactions which are not due to a neurotic constitution usually disappear, however, with successful progress in reading. Recent trends of evidence indicate that, in the case of persons of normal intelligence, reading disability is usually related to specific rather than general deficiencies.

When standardized measuring devices are supplemented by special tests, an adequate diagnosis of reading disability is usually possible. The remedial treatment which has proved most successful is designed to remedy specific deficiencies. If skilled individual instruction is available, prognosis is favorable in practically all cases provided the proper motivation can be supplied to the subject.

STILL MORE ADO ABOUT ZERO

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Two articles by Dickey¹ and Wheat² give illuminating facts about the operation and the use of zero. Dickey gives an inductive proof of the result when a number is multiplied or divided by zero, while Wheat denies the possibility of dealing with zero in the four fundamental processes except as a place-holder. The writer believes that each of these men gives a representation of the situation which needs to be slightly modified.

Dickey gives excellent inductive proofs to show why the product of zero multiplied by a number is zero and why the product of a number multiplied by zero is zero. Thus, he shows that $3 \times 0 = 0$ and that $0 \times 3 = 0$. The pupil has need for the first of these facts, but he never has occasion to use the second. When a person multiplies the example $\begin{array}{r} 40 \\ \times 3 \\ \hline \end{array}$, he thinks, "Three zeros are zero," or "Three times zero is zero," depending on the phraseology which he uses for expressing a multiplication fact. Hence, there are nine multiplication facts which involve zero. If the reverse form is used, then there will be nine more facts plus the zero double, 0×0 , or a total of nineteen facts. This number corresponds to the number of zero facts in addition and subtraction.

In a number which is a multiplier, the zero may be final, intermediate, or alternate; but in any case there is never an occasion for making a mental response to a zero fact, such as is required when the zero appears in the multiplicand. It is never necessary to multiply by zero in arithmetic computation. The only time there is a possibility of multiplying by zero occurs in the evaluation of a formula.

¹ John W. Dickey, "Much Ado about Zero," *Elementary School Journal*, XXXII (November, 1931), 214-22.

² Harry G. Wheat, "More Ado about Zero," *Elementary School Journal*, XXXII (April, 1932), 623-27.

To find the value of abc when $a=3$, $b=0$, and $c=2$, one may think, "Three zeros are zero. Zero 2's are zero." However, when the student has reached the grade level in which examples of this type are given, he should be able to see that the final product will be zero whenever any of the factors is zero. If the product is found by inspection, multiplying by zero is avoided. Since the possibility of multiplying by zero occurs only in dealing with generalized number, the arithmetic procedure in the elementary school should not be patterned to meet a specialized demand for advanced work. An example will be given to illustrate the use of zero in each of the three positions it may occupy in the multiplier.

When zero is final, the multiplier should be written in such a manner that the zero or zeros will appear at the right of the first figure of the multiplicand. Then the zero is merely "brought down," and no mental response to a primary fact is required. In the example $\begin{array}{r} 36 \\ \times 20 \\ \hline \end{array}$

the first basic fact to which a mental response must be given is the combination 2×6 . The zero in 20 performs the function of a placeholder; hence there is no need to use it as a multiplier. If the example is written $\begin{array}{r} 36 \\ \times 20 \\ \hline \end{array}$, it is necessary to make a mental response to 0×6 .

Those who advocate the latter notation may assume that it is as easy merely to "bring down" the zero in this form as in the notation in which the zero extends to the right of the multiplicand. Only empirical investigation can affirm or deny the validity of this assumption, but a priori reasoning leads one to believe that this hypothesis is not correct. When the terminal zero is placed below the first figure of the multiplicand, the example is written in the same form as an example in addition or subtraction. In either of these two processes the figure in the result would be the figure directly above the zero. Thus, the pupil must either make a mental response to a multiplication fact, as 0×6 , or be constantly alert against the possibility of making a wrong response resulting from negative transfer from addition and subtraction. If zero is treated as a basic fact, more opportunity is presented for error than in the case in which the zero is merely brought down because, as the number of mental responses is increased, the chance for error is likewise augmented. Buswell and

John¹ found that many errors were made in the combinations in which zero was a multiplier. This fact cannot be explained on the basis of the inherent difficulty of these combinations, for Norem and Knight² found experimentally that all the nineteen zero combinations except two were below the median difficulty of the one hundred multiplication combinations. This situation presents an enigma: experimentally multiplying by zero represents an easy combination, but in practice it represents one of the greatest sources of error. The best way out of the dilemma seems to be to require no mental response to a zero combination used as a basic fact. In this case the final zero is merely "brought down" in the product.

If the zero is the intermediate figure in the multiplier, there is likewise no need to multiply by this figure. To find the product of the example $\begin{array}{r} 43^2 \\ \times 203 \\ \hline \end{array}$, the pupil multiplies by 3 and then by 2, neglecting to

multiply by zero. This procedure can easily be rationalized if the teacher feels that neglecting the zero is a step which warrants an explanation. Multiplying by 203 is the same as multiplying by 3 and 200. In the illustration the pupil multiplies by 3 and then by 200.

$\begin{array}{r} 43^2 \\ \times 203 \\ \hline 1296 \\ 86400 \\ \hline \end{array}$ Since he has already learned how to treat a terminal zero, he brings down the two final zeros in 200 and then multiplies by 2—a procedure which is equivalent to skipping over the intermediate zero in the multiplier and beginning with 2. When this technique is followed, the pupil is learning the true value of zero as a place-holder, which Wheat has so admirably exhorted teachers to stress.

Multiplying by an intermediate zero often results in a cumbersome procedure by the pupil because he fills in all the zeros. Lazar³ found that the pupils would supply all the zeros as illustrated

¹ G. T. Buswell, with the co-operation of Lenore John, *Diagnostic Studies in Arithmetic*, p. 138. Supplementary Educational Monographs, No. 30 Chicago: Department of Education, University of Chicago, 1926.

² Grant B. Norem and F. B. Knight, "The Learning of the One Hundred Multiplication Combinations," *Report of the Society's Committee on Arithmetic*, pp. 555-57. Twenty-ninth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1930.

³ May Lazar, *Diagnostic and Remedial Work in Arithmetic Fundamentals*, p. 45. New York: Bureau of Reference, Research and Statistics, Board of Education, 1928.

$$\begin{array}{r} 231 \\ \times 403 \\ \hline 693 \\ 000 \\ 924 \end{array}$$

in the example at the left, and Buswell and John¹ reported many cases of the same type. To the writer the result seems reasonable. If any figure of the multiplicand is multiplied by zero, then all the figures should be multiplied by it. To multiply by zero a number of two or more digits and expect the pupil to write one zero for the product represents a short cut or a generalization as difficult to understand as the place-value concept, which is stressed when the zero is neglected. Hence, no advantage in learning is secured by multiplying by an intermediate zero which cannot be equally or better obtained by considering the zero a place-holder.

Textbook-writers and teachers advocate multiplying by an intermediate zero probably because they believe that this technique helps the pupil to place his partial products correctly. If the multiplier is a three-digit number containing an intermediate zero, multiplying by zero will give the proper result. However, when alternate zeros occur, as in a five-digit multiplier, multiplying by zero is often fatal. In the arithmetic test of the examination given May 31, 1932, to the candidates who applied for entrance to the normal schools and teachers' colleges in the state of New Jersey, the following example was included: $\begin{array}{r} 24135 \\ \times 20301 \end{array}$. Of a group of 1,120 candidates, 270 persons, or

24.1 per cent, multiplied by zero and misplaced the partial products.

$$\begin{array}{r} 24135 \\ \times 20301 \\ \hline 24135 \\ 724050 \\ 482700 \\ \hline 55534635 \end{array}$$

The procedure which they followed is illustrated in the example shown at the left. The percentage of wrong responses made by this group is not unusual; over a period of years the writer has found that approximately 25 per cent of the students in his classes in teacher-training institutions make errors of the same type in similar examples. If the multiplicand had also contained alternate zeros, probably many more persons would have multiplied by zero and used that product as a guide in placing the next significant partial product. This assumption is borne out by the fact that many students interchanged multiplier and multiplicand in order to eliminate the necessity of multiplying by zero.

An error of placement is difficult to detect by the methods of

¹ G. T. Buswell, with the co-operation of Lenore John, *op. cit.*, p. 138.

checking ordinarily used. If the example given above is checked by casting out 9's, the wrong product will be found to be correct. If both multiplicand and multiplier contain alternate zeros, so that interchanging these numbers will not relieve the person of the difficulty of placement, the most valid check is to cast out 11's or to divide the product by one of the factors. It is probable that either of these checks will be only rarely used. In a survey of the different methods employed for checking multiplication with a multiplier of two or more figures, Upton¹ found the following techniques and their percentages of frequency: (1) The work was gone over another time, 68 per cent. (2) Multiplier and multiplicand were interchanged, 15 per cent. (3) The product was divided by one of the factors, 9 per cent. (4) Casting out 9's, 4 per cent. (5) No check of any kind was used, 4 per cent. These data show that only a small percentage of persons employ a check which will detect a placement error of the type usually found when a multiplier contains alternate zeros.

A study of the papers of the candidates who multiplied by zero and those who did not showed strikingly the advantage derived from skipping the zero in the multiplier. It was possible for the writer to secure the results on this phase of the work only in the institution in which he is working. Of a group of eighty-eight candidates who did not use a final zero as a guide in placement (hence they neglected to multiply by zero), not one secured a wrong answer as a result of a placement error. The only errors made by this group were two errors in combinations. Of a group of 142 candidates who used the final zero of a partial product as a guide in placement (hence they multiplied by zero), 64 had incorrect answers resulting from faulty placement. These data show conclusively that multiplying by zero intensifies the difficulty of placing the partial products. It is worthy of note that all the candidates were within a month of graduation from secondary schools and that almost all these students ranked in the upper halves of their classes.

A final reason why zero should not be used as a multiplier lies in the relation of multiplication to division. These two are reciprocal processes. Multiplying by 3 is the same as dividing by $\frac{1}{3}$; likewise,

¹ Clifford Brewster Upton, "Professionalized Subject Matter in Arithmetic for Normal Schools," *Teachers College Record*, XXVII (November, 1925), 204.

dividing by 3 is the same as multiplying by $\frac{1}{3}$. Hence, if a number can be multiplied by zero, it can be divided by zero. It is possible to divide zero by a number (for example, $3 \overline{)0}$), the result being zero. This result can be checked by multiplication, for three zeros are zero. However, it is not possible to interchange the numbers in this division example and secure a determinate number for the quotient. Dickey shows why any number divided by zero is infinity. In elementary arithmetic, therefore, dividing by zero is not practiced. Since multiplication is a reciprocal process of division, multiplication by zero likewise should not be practiced. There will then be the same number of basic facts in each process, namely, ninety.

THE TWOFOLD FUNCTION OF ZERO

One of the things which creates confusion concerning the zero is its dual function in number. Wheat presents very clearly the function of zero as a place-holder.¹ He does not concede, however, that under certain conditions zero takes on the same function as any other natural number. If with a micrometer the diameter of a bolt is found to be exactly five hundred thousandths of an inch, the result will be written 0.500. In this case the two terminal zeros have numerical value as well as place value. These zeros show the exactness with which the measurement has been made. If they are dropped, the degree of accuracy of measurement will be changed very considerably as the diameter of the bolt will then be only five-tenths of an inch. The zero to the left of the decimal point may likewise be considered to have numerical value; it indicates that there are *no* integral measures which have been forgotten. If the diameter of the bolt had been five-thousandths of an inch, the measurement would have been written 0.005. In this case the two zeros to the right of the decimal point are mere place-holders. Some other symbol could be substituted for these zeros to indicate position, and yet the accuracy of the measurement would be the same. Tuttle and Satterly² suggest that two symbols should be used to represent zero, one when it is significant, or when it has value, and the other when it is a place-

¹ Harry G. Wheat, *op cit.*, p. 624

² Lucius Tuttle and John Satterly, *The Theory of Measurements*, p. 37 New York: Longmans, Green & Co., 1925

holder. If we consider 93,000,000 miles the distance from the earth to the sun, this number may be written 93,000,000 which indicates that the two large zeros have numerical value as well as place value. The small zeros indicate that they are merely place-holders. Another alternative which Tuttle and Satterly suggest is that a different symbol be used to represent zero when it is only a place-holder. The symbol which they suggest for this purpose is a character such as ξ . Then the distance to the sun from the earth could be written 93,00 ξ , $\xi\xi\xi$. Although neither of these notations is ever employed, the fact that there is a possibility of their usage to symbolize the two functions of zero is indicative of the reason why there is confusion about zero.

SUMMARY

The consideration given zero in this article centers in the use of zero as a multiplier and the use of zero as a place-holder only. It is necessary to multiply zero by a number, but the reverse of this statement is not true. When zero is in the multiplier, the errors from misplacement of the partial products are greatly increased if the zero is used as a multiplier. When occurring in the multiplier, zero should be treated as a place-holder. Hence, this procedure precludes the possibility of multiplying by zero.

One of the factors which adds to the confusion about zero is its dual function. Its chief function is as a place-holder, but it may take on numerical value in measurement to indicate the degree of accuracy of the measurement in the same manner as any other natural number. Therefore, it is not justifiable to give the pupil the concept of zero as only a place-holder when there is another important rôle which this symbol may enact.

THE LAW GOVERNING THE DISMISSAL OF TEACHERS. II

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DISMISSAL BECAUSE OF LACK OF FUNDS WITH WHICH TO PAY SALARIES

There is not a great deal of judicial authority with respect to the right of school officials to dismiss teachers because of lack of funds with which to pay salaries. The rule supported both by reason and by the weight of authority may be stated as follows: A school board may not dismiss a teacher for lack of funds if it is legally possible to provide the necessary funds either out of the revenue for the current year or out of the income for subsequent years. Even the state legislature cannot by legislative act impair the obligation of a contract, and certainly a school district cannot do so. However, teachers make contracts in contemplation of the law, and a contract which increases the indebtedness of the district beyond the legal debt limit is void. If the statutes provide that a school district must confine its expenditures to the revenue of the current year, contracts creating an indebtedness in excess of that revenue cannot be enforced. A school board cannot, however, dismiss a teacher merely because it does not have on hand the funds with which to pay him. It must show that it had no legal authority to make the contract under the law existing at the time the contract was made. It should be kept in mind in this connection that different principles of law govern where teachers hold their positions on permanent tenure.

A few cases will serve to illustrate the principles stated in the preceding paragraph. In the case of *Myers v. Independent School District*¹ a statute prohibited school-district boards from incurring an indebtedness in excess of the revenue appropriated for school purposes during any fiscal year. In making contracts with teachers, the

¹ *Myers v. Independent School District*, 104 Okla. 51, 230 Pac. 498. Accord, *Gentis v. Hunt*, 247 Pac. (Okla.) 358.

board of education kept within the current revenue but limited itself to \$749 for all other current expenses. Nevertheless, it spent for other purposes a good portion of the funds which should have been set aside for teachers. When the school year was about half expired, all funds were exhausted. The court held that the teachers could recover the amounts unpaid on their contracts.

In the case of *Rudy v. Poplar Bluff School District*¹ the school was closed and the teacher discharged because of lack of funds. The tax levy provided sufficient funds to pay the teacher, but some of the taxes were not collected. The court permitted the teacher to recover, saying in part:

But the defense here set up fails to show that the revenue "provided for" the school year in question was not sufficient to pay all the teachers; it merely shows that there was a failure to pay into the school-district treasury enough for that purpose. If this is the sound view, then the rights of the teacher, under his contract with the district, may be displaced by the negligence or fraud of the tax collector. If the collector negligently fails to collect the school taxes which are levied, or collects them and fails to turn them over, the directors for this reason may, even upon the brief notice of five days, cancel the contract with the teacher. We are of opinion that this is not the law. . . . But, in order to make it appear that the contract with the teacher was *ultra vires* on the part of the directors, it must appear that not enough revenue was "provided" longer to continue the school, and not merely that not enough was collected and turned over to the treasurer of the school board.

If a teacher cannot be paid out of the revenue of the fiscal year for which he is employed, there is no good reason why he cannot be paid from the revenue of some subsequent year unless the statutes provide otherwise. In this connection it was said by the Supreme Court of Rhode Island:

The fixing of the fiscal year is purely a matter of convenience in the handling of the financial and business transactions of the city, and exerts no force or influence upon a contract made with a teacher for her services. The school committee had authority to engage teachers, fix their compensation, and determine their term of service. The obligation thus arising to the city to pay the salaries of teachers is not released or varied by the fixing of the fiscal year, nor does the right to collect the salary covered by the order expire with the close of the fiscal year. It is a contract which the city has entered into through its properly authorized committee, and as such it must be recognized and carried out.²

¹ *Rudy v. Poplar Bluff School District*, 30 Mo. App. 113.

² *Hardy v. Lee*, 36 R.I. 302, 90 Atl. 383.

Conditions may arise, however, under which teachers may be dismissed because of lack of funds. Where the statutes limit the expenditure of the district to the revenues provided for the fiscal year, contracts creating an indebtedness in excess of the amount which the district may spend are *ultra vires* and void. Therefore, a teacher who is employed under such a contract may be dismissed when the funds which the district may legally spend are exhausted.¹ A Texas case² illustrates the point. A statute provided that "trustees of districts, in making contracts with teachers, shall not create a deficiency debt against the district." The court said:

The trustees were not authorized to contract any debt which would cause a deficiency in the school fund of the district. In other words, they could not contract debts in the employment of teachers to an amount greater than the school fund apportioned to that district for that scholastic year. . . . Any debt contracted greater than that would be a violation of the law, and constitute no claim against the district. . . . The trustees were authorized to expend the sum set apart to the district, but not empowered to contract a debt against the funds of future years.

ABOLITION OF POSITION

If a teacher has been employed for a definite term, a school board cannot annul the contract by closing school³ or by abolishing the department or position in which the teacher was engaged to teach.⁴ If, on the other hand, a teacher has a permanent tenure unless removed for cause shown, the rule seems to be otherwise. Obviously, the legislature, in giving teachers permanent tenure, did not intend to limit in any way the right of school authorities to determine what should be taught or to determine the positions which efficient administration of the school system might demand.⁵ Statutes providing for permanent tenure are to be interpreted as "intending only a regulation of dismissal for causes personal to the employee."⁶

¹ *Wolfe v. School District No. 2*, 58 Wash. 212, 108 Pac. 442; *Collier v. Peacock*, 93 Tex. 255, 54 S.W. 1025; *Morley v. Power*, 10 Lea (78 Tenn.) 219.

² *Collier v. Peacock*, 93 Tex. 255, 54 S.W. 1025.

³ *Hornbeck v. State*, 33 Ind. App. 609, 71 N.E. 916.

⁴ *School Town of Milford v. Zeigler*, 1 Ind. App. 138, 27 N.E. 303.

⁵ *Funston v. District School Board for District No. 1*, 130 Ore. 82, 278 Pac. 1075, 63 A.L.R. 1410; *Bates v. Board of Education*, 139 Cal. 145, 72 Pac. 907; *Fidler v. Board of Trustees*, 296 Pac. (Cal.) 912. See also, *Cusack v. New York Board of Education*, 174 N.Y. 136, 66 N.E. 677.

⁶ *Funston v. District School Board for District No. 1*, 130 Ore. 82, 278 Pac. 1075, 63 A.L.R. 1410.

REASSIGNMENT OF TEACHERS

The rule is well established that a teacher cannot be required to perform service of a kind other than that provided for in his contract. Assignment of a teacher to perform work substantially different from that which he has agreed to perform constitutes dismissal.¹ Thus, it was said by the Supreme Court of Wisconsin: "The primary department of a public school does not include the sixth, seventh, and eighth grades, and one who contracts to teach the primary department cannot be required to teach said grades in their grade work, even though the classes be sent to the primary room."² In Arkansas the court ruled that a teacher who had agreed to teach the first eight grades could not be required to teach the ninth grade as well.³ In an Indiana case⁴ a teacher holding a certificate authorizing her to teach domestic science, history, civics, and zoölogy entered into a contract to teach "in the public schools of said township, in such building, grade, and room as said trustee may designate." The trustee required that she teach English and German, subjects not included in her certificate. She took an examination in these subjects but failed to make a passing grade, and the trustee dismissed her. In holding that the trustee had violated the contract, the court said:

We must presume that he intended to keep entirely within the law; that he intended, when he entered into the contract with appellee that she would teach the subjects, and only those subjects, covered by her license. . . . If it should be declared to be the law that a trustee, after entering into such a contract with a teacher, could demand of such teacher that she teach some particular subject not covered by the license of such teacher, and that a failure of such teacher to procure a license covering the subject so demanded of her to be taught constitutes a breach of her contract, then is the way open to any trustee to render of no effect any contract he may have made with any teacher.

Even if teachers have permanent tenure, a board of education cannot assign a teacher to a position of lower grade involving a loss of

¹ *School District No. 21 v. Hudson*, 277 S.W. (Ark.) 18; *Russellville Special School District No. 14 v. Tinsley*, 156 Ark. 283, 245 S.W. 831; *Butler v. Joint School District No. 4*, 155 Wis. 626, 145 N.W. 180; *Jefferson School Township v. Graves*, 150 N.E. (Ind.) 61; *People v. Board of Education*, 174 N.Y. 169; *Jackson v. Independent School District of Steamboat Rock*, 110 Ia. 313, 81 N.W. 596; *Kennedy v. Board of Education*, 82 Cal. 483, 22 Pac. 1042.

² *Butler v. Joint School District No. 4*, 155 Wis. 626, 145 N.W. 180.

³ *School District No. 21 v. Hudson*, 277 S.W. (Ark.) 18.

⁴ *Jefferson School Township v. Graves*, 150 N.E. (Ind.) 61.

pay and rank unless authorized to do so by statute. A New York case¹ is in point. The charter of New York City read in part:

All superintendents, . . . principals, teachers, and other members of the educational staff . . . shall continue to hold their respective positions and to be entitled to such compensation as is now provided or may hereafter be provided by the various school boards, subject to the limitations of this act, and to reassignment or to removal for cause, as may be provided by law.

It was contended that under the charter a teacher who had been promoted to a higher position could be reassigned to the lower position at the discretion of the board and without trial. The court denied the contention, saying in part:

While the interests of the schools, which are supreme, may require the reassignment of a teacher promoted to a higher grade, as we read the statute, the reassignment must be founded on cause shown after an opportunity to be heard. Some fact must be alleged and proved to justify it, or the scheme to protect the tenure of teachers can be defeated, in all cases of promotion, by arbitrary reassignment to the former position.

Similarly, under a tenure act in California it was provided that teachers, after being elected, could be dismissed only "for violation of the rules of the board of education, or for incompetency, or for unprofessional or immoral conduct." A teacher, after having been granted a year's leave of absence, was assigned to a position of lower rank and salary than the one she had held. She brought action for a writ of mandamus requiring the board to reinstate her in her former position. The writ was granted, and the court reasoned as follows:

It will be observed from the statement of the case that the respondent was not dismissed entirely from service as a teacher. She was removed from the *grade* in which her certificate and the statute entitled her to teach, which was as much a violation of the statute as if she had been dismissed, and not given another position.

We do not wish to be understood as holding that the board of education has not the power to transfer a teacher from one school to another of the same grade. The statute does not guarantee to a teacher the right to continue in any particular *school*, but to continue as such teacher in a certain *grade*, and the transfer of teachers from one school to another may be necessary for the good of the schools, and should not be prohibited.²

In a later case³ the Court of Appeals of California held that under the tenure act a teacher could be transferred from the third grade

¹ *People v. Board of Education*, 174 N.Y. 169

² *Kennedy v. Board of Education*, 82 Cal. 483, 22 Pac. 1042.

³ *Loehr v. Board of Education*, 12 Cal. App. 671, 108 Pac. 325.

to the first grade at the discretion of the board. The court said that the statute recognized but three grades of instruction for the purpose of classifying teachers, namely, primary, grammar-school, and high-school. In the words of the court:

It is in this statutory sense that we must regard the term "grade" when seeking a limitation upon the powers of the defendant to transfer and assign teachers, as it will not be pretended that the asserted right of the teacher to teach a particular class within a particular grade, in preference to another class within the same grade, can be upheld without express statutory authority.

Where the statute or the rules of the school board provide for the assignment of teachers to such work or to such positions as the board may determine, a teacher, of course, is bound thereby and may be assigned work in the system at the discretion of the board.² Such is the case because the statutes and the rules of the board are by implication read into the contract of employment.

DISMISSAL FOR POLITICAL ACTIVITY

The limitations placed on teachers and superintendents in expressing their political opinions while performing their official duties and the extent to which they may actively engage in politics are matters with regard to which there is not a great deal of judicial authority. However, a California court has held that a teacher may not in the classroom actively espouse the candidacy of a particular candidate. A teacher in the Sacramento High School made the following remarks to one of his classes regarding a candidate for the office of superintendent of schools of Sacramento County: "Many of you know Mr. Golway, what a fine man he is, and that his hopes are to be elected soon. I think he would be more helpful to our department than a lady, and we need more men in our schools. Sometimes your parents do not know one candidate from another; so they might be glad to be informed. Of course, if any of you have relatives or friends trying for the same office, be sure and vote for them." The superintendent of schools filed a complaint with the board of education, charging the teacher who had made the statement with unprofessional conduct. After notice and hearing, the board suspended the offending teacher for a period of ten weeks with-

² *Alexander v. School District No. 1*, 84 Ore. 172, 164 Pac. 711; *Underwood v. Board of Public Education*, 25 Ga. App. 634, 104 S.E. 90.

out pay and authorized the president of the board to reprimand him publicly. The teacher sought a writ of mandamus to compel the board to reinstate him, but the court refused to grant it for the reasons stated in the following excerpt.¹

It is to be observed that the advocacy before the scholars of a public school by a teacher of the election of a particular candidate for a public office—the attempt thus to influence support of such candidate by the pupils and through them by their parents—introduces into the school questions wholly foreign to its purposes and objects; that such conduct can have no other effect than to stir up strife among the students over a contest for a political office, and the result of this would inevitably be to disrupt the required discipline of a public school. Such conduct certainly is in contravention not only of the spirit of the laws governing the public-school system, but of that essential policy according to which the public-school system should be maintained in order that it may subserve in the highest degree its purposes.

A school teacher or superintendent may, however, engage in political activity outside the schoolroom. By becoming a teacher, one does not lose one's rights as a citizen. In an Arkansas case,² for example, it was held that a city superintendent had the legal right to oppose vigorously the election of certain candidates for school-board membership. The superintendent was advocating what was described as an "ambitious" building program, in which he was supported by half the board members and opposed by the other half. The evidence showed that he adhered persistently to his plan and was not at all disposed to treat the decision of the board as final in the sense that he ceased to impress the members with his views. Considerable bitterness and factional spirit developed. In a campaign for the election of two new board members, the superintendent wrote a letter to two of his most bitter opponents on the board challenging them to resign and stand for re-election. Moreover, he took an active part in the campaign and on one occasion made a political speech. It was conceded, however, that he fought in the open and was not guilty of obstructive tactics and that in his relations with the board members he was neither disrespectful nor personally offensive. After the election the superintendent was discharged. When he sued for his salary, the defense was that he had

¹ *Goldsmith v. Board of Education*, 66 Cal. App. 157, 225 Pac. 783

² *Gardner v. North Little Rock Special School District*, 161 Ark 466, 257 S.W. 73.

been guilty of insubordination, had opposed the policies of the board, and had engaged in harmful political activities. In holding that the conduct in question did not constitute legal cause for dismissal, the court discussed at some length the political rights of teachers:

It is difficult to draw a line of demarcation between the political rights of a school teacher, or others engaged in educational work, with respect to activity in politics. Certainly they are not denied the right of free speech or the right to a reasonable amount of activity in all public affairs. . . . Their zeal in political activity must not carry them to such a degree of offensive partisanship that their usefulness in educational work is impaired or proves a detriment to the school interests affected by their service. It does not appear to us that the evidence in this case shows any such overzeal or activity on the part of the plaintiff.

MARRIAGE AND ABSENCE FOR CHILDBIRTH AS CAUSES OF DISMISSAL

The authority of a school board to dismiss a woman teacher who marries during the term of her contract is not definitely settled. The rule seems well established that marriage, in and of itself, does not constitute a legal cause for the dismissal of a woman teacher. Marriage, the courts hold, may or may not render a teacher inefficient. The courts hold, therefore, that a woman teacher who marries cannot be dismissed unless she has, in effect, agreed to terminate her employment in case of marriage. If the statutes authorize a school board to terminate a teacher's contract in case she marries, the provisions of the statute are, of course, read into the contract and the teacher may be dismissed. Where no such specific statutory authority exists, the courts are divided with respect to the authority of a board to enforce a rule providing for the dismissal of a woman teacher who marries during the term of her contract. A number of courts hold that, inasmuch as marriage is not a reasonable cause for dismissal, a board of education cannot legally dismiss a woman teacher who marries even though the board may have adopted a rule reserving to itself the right to dismiss teachers under such circumstances.¹ These courts hold that a board has no authority to enforce an unreasonable rule and that such a rule is unreasonable. Other courts take the position that such a rule is not unreasonable and

¹ *Richards v. District School Board for School District No. 1*, 78 Ore. 621, 153 Pac. 482, L.R.A. 1916C 789, Ann. Cas. 1917D 266; *Byington v. School District of Joplin*, 224 Mo. App. 541, 30. S.W. (2nd) 621; *People v. Maxwell*, 177 N.Y. 494, 69 N.E. 1092.

may be enforced.¹ Reasonable rules of a board of education are always read into a teacher's contract. Consequently, the teacher, in effect, agrees to terminate her contract in case of marriage. Where a teacher expressly agrees in her contract not to marry or to terminate her employment in case she marries, there is a great deal of uncertainty with respect to the effect of the agreement. In the cases in which this specific issue has come into the courts, it has been held that the teacher could be dismissed.² In a great many non-school cases, however, it has been held that contracts in restraint of marriage are against public policy and therefore void. Absence from school to give birth to a child, it has been held, constitutes such neglect of duty as to warrant dismissal.³

A case decided by the Supreme Court of Oregon⁴ illustrates the reasoning of those courts which hold that marriage is an unreasonable cause of dismissal and that a board of education is without authority to enforce a rule providing for the dismissal of women teachers who marry during the term of their employment. A school board passed a rule which read: "Married women shall not be eligible to positions as teachers in the district. . . . All women teachers who marry during their time of service thereby terminate their contracts with the district." A statute provided that teachers could be dismissed only for reasonable cause. In holding that the board had no authority to make or enforce the rule against marriage, the court reasoned as follows:

We prefer to proceed with the inquiry and determine whether the single fact of marriage can . . . be said to be a reasonable cause for dismissal. If a teacher becomes inefficient or fails to perform a duty, or does some act which of itself impairs usefulness, then a good or reasonable cause for dismissal would exist. The act of marriage, however, does not, of itself, furnish a reasonable cause. That the marriage status does not necessarily impair the competency of all women teachers is conceded by the school authorities when they employ married

¹ *Backie v. Cronwell Consolidated School District No. 13*, 242 N.W. (Minn.) 389; *Sheldon v. School Committee of Hopdale*, 276 Mass. 230, 177 N.E. 94.

² *Gulford School Township v. Roberts*, 28 Ind. App. 355, 62 N.E. 711; *Ausorge v. City of Green Bay*, 198 Wis. 320, 224 N.W. 119.

³ *People v. Board of Education*, 212 N.Y. 463, 106 N.E. 307; *Auran v. Mentor School District No. 1*, 233 N.W. (N.D.), 644.

⁴ *Richards v. District School Board for School District No. 1*, 78 Ore. 621, 153 Pac. 482, L.R.A. 1916C 789, Ann. Cas. 1917D 266.

women, as they are even now doing, to teach in the schools of this district. The reason advanced for the rule adopted by the board is that after marriage a woman may devote her time and attention to her home rather than to her school work. It would be just as reasonable to adopt a rule that, if a woman teacher joined a church, it would work an automatic dismissal from the schools on an imagined assumption that the church might engross her time, thought, and attention to the detriment of the schools; but such a regulation as the one supposed would not even have the semblance of reason. . . . It is impossible to know in advance whether the efficiency of any person will become impaired because of marriage, and a rule which assumes that all persons do become less competent because of marriage is unreasonable because such a regulation is purely arbitrary. If a teacher is just as competent and efficient after marriage, a dismissal because of marriage would be capricious. If a teacher is neglectful, incompetent, and inefficient, she ought to be discharged whether she is married or whether she is single.

Similarly, in West Virginia a statute authorized the dismissal of teachers for "incompetency, neglect of duty, intemperance, profanity, cruelty, or immorality." In holding that under such a statute a woman teacher could not be dismissed because of having married, the court said: "Marriage is not covered by any of these, and therefore does not constitute in and of itself ground of removal."¹ The charter of New York City authorized the removal of teachers for "gross misconduct, insubordination, neglect of duty, or general inefficiency." The board of education passed a rule that, should a woman teacher marry, her position would thereupon become vacant. The court held that the board had no authority to dismiss a woman teacher merely on the ground of marriage because it had no authority to enact the rule. The board could dismiss for no other causes than those enumerated in the statute.²

Where a teacher expressly agrees in her contract not to marry during the term of her employment or, in case she does marry, to terminate her contract, it has been held that the contract is binding and can be enforced.³ In an Indiana case⁴ a teacher, in applying for a position, told the township trustee that she was not married and

¹ *Jameson v. Board of Education*, 74 W.Va. 389, 81 S.E. 1126.

² *People v. Maxwell*, 177 N.Y. 494, 69 N.E. 1092.

³ *Guilford School Township v. Roberts*, 28 Ind. App. 355, 62 N.E. 711; *Ausorge v. City of Green Bay*, 198 Wis. 320, 224 N.W. 119. See also, *Backie v. Cromwell Consolidated School District No. 13*, 242 N.W. (Minn.) 389.

⁴ *Guilford School Township v. Roberts*, 28 Ind. App. 355, 62 N.E. 711.

did not expect to marry during the school year. Somewhat later she entered into a contract to teach, signing her maiden name in spite of the fact that she had been married for four days. When the trustee learned her real status, he discharged her. She sued for her salary. The court held that the contract was void because it was secured through fraud and misrepresentation. Further, it was held that, where a teacher promises in her contract not to marry, such a promise becomes a valid part of the contract and, when violated, constitutes a legal cause for dismissal. In a very recent case¹ the Supreme Court of Wisconsin reached the same conclusion. A contract with a teacher read in part:

It is agreed that the contemplated marriage of the party of the second part shall not be performed before the Christmas holidays. If performed at that time, the party of the second part agrees to give thirty days' notice to that effect. If not performed at that time, the party of the second part agrees that she shall not be married until after the close of the school year.

The teacher was married shortly after the Christmas holidays and was discharged. The court held that the contract was valid and that the teacher had no cause of action.

It seems that there are no other cases precisely in point. It is doubtful whether the courts in the foregoing cases applied the correct principle of law. In the first place, it has been held in a number of cases that a board of education does not have the implied authority to adopt and enforce a regulation that marriage on the part of a woman teacher shall terminate her contract.² If a board has no authority to adopt and enforce such a resolution, it would seem that it has no authority to write into a teacher's contract a provision to the effect that marriage on her part will terminate the contract. In the second place, the great weight of authority is to the effect that contracts in restraint of marriage are void because they are contrary to public policy.³ In one case it was said:

¹ *Ansorge v. City of Green Bay*, 198 Wis. 320, 224 N.W. 119.

² *Richards v. District School Board for School District No. 1*, 78 Ore. 621, 153 Pac. 482, L.R.A. 1916C 789, Ann. Cas. 1917D 266; *People v. Maxwell*, 177 N.Y. 494, 69 N.E. 1092; *Byington v. School District of Joplin*, 224 Mo. App. 541, 30 S.W. (2nd) 621.

³ *White v. Equitable Nuptial Benefit Union*, 76 Ala. 251, 52 Am. Rep. 325; *King v. King*, 63 Ohio St. 363, 59 N.E. 111, 52 L.R.A. 157, 81 Am. St. Rep. 635; *Fletcher v. Osborn*, 282 Ill. 143, 118 N.E. 446, L.R.A. 1918C 331; *Lowe v. Doremaus*, 84 N.J. Law 658, 87 Atl. 459, 49 L.R.A. (N.S.) 632.

Courts refuse to enforce or recognize certain classes of acts because against public policy on the ground that they have a mischievous tendency, and are thus injurious to the interests of the state, apart from illegality or immorality. A contract in restraint of marriage is of this nature.¹

There is some tendency to modify the broad rule that contracts in restraint of marriage are void. If the restraint upon marriage is a mere incident to the main purpose and object of the contract, some courts hold that the contract is not void in all its terms but void only with respect to the promise not to marry.² It would seem, therefore, that some authority exists for holding that a provision in a teacher's contract restricting her right of marriage is void and without effect although the contract as a whole may be enforceable.

The Court of Appeals of New York has held that a married teacher who absents herself from school for the purpose of giving birth to a child may be dismissed for neglect of duty.³ The teacher in question was absent for approximately three months without being excused by the board. The court expressed its opinion as follows:

The legislature could have provided that the relator might be dismissed for no cause whatever. She had no vested right in the position of teacher. Section 1093 of the city charter has made neglect of duty ground for dismissal without any qualifying words. Absence on account of serious illness or for any other reason, high or low, leaves the duties of the position unperformed, and therefore neglected by the absentee. The statute has lodged with the board of education the power of deciding cases that thus fall within section 1093, and the board is required to pass upon the excuses offered in any case of absence. In the proceeding under review, the board of education discharged its duties fairly, and the courts cannot by mandamus reverse the conclusion reached.

In what seems to be the only other case in point, the Supreme Court of North Dakota took the same position as the New York court.⁴

¹ *King v. King*, 63 Ohio St. 363, 59 N.E. 111, 52 L.R.A. 157, 81 Am. St. Rep. 635.

² *Fletcher v. Osborn*, 282 Ill. 143, 118 N.E. 446, L.R.A. 1918C 331; *King v. King*, 63 Ohio St. 363, 59 N.E. 111, 52 L.R.A. 157, 81 Am. St. Rep. 635; *Crowder-Jones v. Sullivan*, 9 Ont. L.R. 27. Contra, *Love v. Doremus*, 84 N.J. Law 658, 87 All. 459, 49 L.R.A. (N.S.) 632.

³ *People v. Board of Education*, 212 N.Y. 463, 106 N.E. 307.

⁴ *Auren v. Mentor School District No. 1*, 233 N.W. (N.D.) 644.

[To be concluded]

THE EFFECTIVENESS OF SYSTEMATIC INSTRUCTION IN READING VERBAL PROBLEMS IN ARITHMETIC

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The experiment reported in the following pages was conducted in the fifth grade of the public schools in Decatur, Illinois, in an effort to determine the effectiveness of a systematic program of instruction in the reading of verbal problems in arithmetic. The teachers of the control classes taught pupils how to solve arithmetical problems by methods customarily employed by all the teachers of the fifth-grade classes. They used incidentally techniques designed to engender the ability to read problems. The teachers of the experimental classes definitely used in a systematic manner a more comprehensive array of such techniques.

The experiment was inaugurated by means of a conference attended by all the teachers participating. At this conference the teachers of the experimental and the control classes were given directions with respect to the administration of the initial tests. After the teachers of the control classes had been dismissed with the admonition to continue their instruction in arithmetic problems without change from the methods they were accustomed to use, the teachers of the experimental classes were given detailed instructions with respect to the experimental factor. Each of these teachers was provided with mimeographed sheets of directions with respect to systematic instruction in the reading of verbal problems in arithmetic.

Precautions were taken to secure control of non-experimental factors. The classes of the experimental group were in schools scattered about the city and were matched in environment by the control classes. The teachers of the experimental classes were cautioned to exert no unusual zeal in the experimental instruction. The record of the problems solved by both experimental and control classes indicated approximate equivalence with respect to this factor. The

pupils of the experimental and the control classes spent the same amount of time each day on arithmetic. The reading instruction given the experimental classes was included in the regular arithmetic periods. When the initial tests indicated that the pupils in both the experimental and the control groups were in need of computational drill, the teachers of the classes of both groups were given permission to provide remedial drill in computation. Numerous observations made by the junior author of this report indicated that the teachers of the experimental and the control classes were conscientiously observing the directions given them with respect to the experiment. So far as the observer was able to determine, the teachers of the experimental and the control classes were approximately equivalent in zeal and skill.

The pupils of the classes of the experimental group were repeatedly requested to define terms appearing in the statements of problems. Particular emphasis was given to terms which indicated the processes to be used in solving problems. The pupils were frequently requested to restate problems in their own words and to formulate new statements which would not materially change the conditions of the problem. In numerous instances pupils were asked to formulate original problems involving the same process or processes as those of a given problem in the textbook. Occasionally pupils were asked to go to the blackboard and diagram the conditions of a problem. The pupils were drilled in the first reading and in the re-reading of problems. In the first reading they were taught to direct their attention to the conditions of the problem and to the identification of the processes to be used. In re-reading they were taught to use care in the accurate copying of figures to be used in calculation. Efforts were made to engender in the pupils an idea of the importance of reading with comprehension the problems they were attempting to solve. It was evident from observations made of the instruction given the classes of the experimental group that the ability to read verbal problems in arithmetic was a definitely recognized objective of the teachers and the pupils of these classes.

It should be noted that the instruction in the experimental classes was not prescribed in detail. The mimeographed directions given to the teachers were general. This plan doubtless resulted in less precise definition of the experimental factor than might have been ob-

tained by giving detailed instructions. It was believed, however, that a more normal teaching situation would be secured by issuing only general instructions. Good teaching requires the adaptation of techniques to the needs of pupils as these needs become apparent. Visitation of the experimental classes by the junior author and the reports from the teachers served as checks on the procedures employed.

Thirteen classes in five elementary schools received the experimental instruction, while the same number of classes in eight elementary schools received the control instruction. A total of 587 fifth-grade pupils were enrolled in these classes, 320 in the former group and 267 in the latter. The initial tests were administered during the first week of December, 1931, and the final tests were administered at the close of the second semester, the last of May, 1932. The initial tests were the Otis Self-administering Tests of Mental Ability, Intermediate Examination, Form C; the New Stanford Reading Test, Form X; and the New Stanford Arithmetic Test, Form X. The final tests were the New Stanford Reading Test, Form W, and the New Stanford Arithmetic Test, Form W.

After the data from the final test had been recorded, pupils were paired on the basis of intelligence quotients, an effort being made to pair those whose chronological ages were approximately the same. Because the data for a number of pupils were incomplete, only 181 pairs were formed.

Table I indicates that the two groups thus formed were very nearly equivalent with respect to the means and the standard deviations of their respective distributions of initial chronological ages, reading scores, and scores in computation and problem-solving. While the experimental group was slightly inferior at the start of the experiment with respect to reading, it was slightly superior to the control group in problem-solving and in computation. Although this fact may be regarded as a limitation, it is probably not significant. One might argue that it would be more difficult for a group initially superior in a given ability to gain as much as a group of lesser initial ability.

Mean gains in reading, computation, and problem-solving were computed, as shown in Table II. None of the differences found are statistically significant. It is interesting to note, however, that the largest difference favoring the experimental factor is that found for

the group of pupils whose intelligence quotients were below 100. This finding suggests that systematic instruction in the reading of

TABLE I
COMPARISON OF EXPERIMENTAL AND CONTROL GROUPS

Factor Compared	Mean	Standard Deviation
Intelligence quotient:		
Experimental group	101.70	11.51
Control group	101.70	11.47
Chronological age (in months):		
Experimental group	127.09	7.92
Control group	127.45	8.21
Reading score:		
Experimental group	70.57	11.44
Control group	71.26	11.36
Score in computation:		
Experimental group	64.57	7.74
Control group	63.27	9.02
Score in problem-solving:		
Experimental group	69.96	13.99
Control group	67.50	13.39

verbal problems in arithmetic is relatively more effective with dull pupils. The small difference unfavorable to the experimental factor for the pupils whose intelligence quotients were above 100 suggests

TABLE II
MEAN GAINS AND DIFFERENCES IN MEAN GAINS MADE BY
EXPERIMENTAL AND CONTROL GROUPS

Test Score	Experimental Group	Control Group	Difference*
Reading	6.69	6.24	+0.45
Computation	16.96	16.43	+0.53
Problem-solving	9.39	9.36	+0.03
Problem-solving:			
I.Q. below 100	10.95	9.84	+1.11
I.Q. above 100	8.33	9.03	-0.70

* A plus sign indicates a difference favoring systematic instruction in the reading of problems.

that systematic instruction in the reading of verbal problems in arithmetic is not effective with bright pupils. It must be emphasized, however, that these differences are so small that little reliance is to be placed on them, but it may be noted that these observations are in agreement with the findings of a path-coefficient study made with

the initial test data.¹ In that study it was found that general reading ability, as measured by the New Stanford Reading Test, makes a small *negative* contribution to variance in the ability to solve arithmetic problems. It was predicted in the report of the study cited that reading instruction would likely decrease individual differences in the ability to solve arithmetic problems because such instruction probably would be relatively more beneficial to the duller pupils.

It seems appropriate, in concluding the report of this experiment, to call attention to a fundamental weakness of experimental techniques when used under school conditions. Precision in experimentation requires greater differentiation in the instruction of experimental and control classes than occurred in this experiment. Ideally, the pupils of the control classes should have been given no instruction which would aid them in acquiring skill in reading verbal problems. The teachers of the control groups had been accustomed to use incidentally a number of the devices specified as the experimental factor. If these teachers had been definitely restricted from using these devices, it is probable that the differences in the mean gains would have been more significantly favorable to systematic reading instruction. The experiment would then have been subject to the criticism that the differences favoring the experimental factor were due not so much to the inherent superiority of this type of instruction as to the departure of the control instruction from sound educational practice. A request that the teachers of the control groups refrain from capitalizing opportunities to teach pupils how to overcome reading difficulties when dealing with verbal problems in arithmetic would have been a request that they teach in an inferior manner. It may be noted, however, that the attempt to maintain sound educational practice in this experiment tended, in all probability, to decrease differences which might have significantly favored the experimental factor. Hence, it should not be concluded that systematic instruction in the reading of verbal problems in arithmetic is not worth while. There are probably numerous pupils in most arithmetic classes who would derive much benefit from such systematic instruction.

¹ M. D. Engelhart, "The Relative Contribution of Certain Factors to Individual Differences in Arithmetical Problem Solving Ability," *Journal of Experimental Education*, I (September, 1932), 19-27.

SELECTED REFERENCES ON PUBLIC-SCHOOL ADMINISTRATION. I

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The books and articles on public-school administration presented in this and a later article were published between April 1 and October 31, 1932. They were selected on the basis of the following criteria: current interest in the problems considered, factual basis of the material contained, adequacy of the treatment given, and importance of the professional contribution made. Limitation of space was necessarily a factor in the choice of articles as only a small percentage of the total number published could be used. Other persons checking the literature from some different point of view might have made a different selection from the references available.

The materials bearing dates between April 1 and June 30, 1932, were annotated for the United States Office of Education by Professors Carter Alexander, W. S. Elsbree, F. W. Hart, Paul R. Mort, John K. Norton, and George D. Strayer. These were turned over to the present contributors, who annotated the publications which appeared between July 1 and October 31, 1932. The annotations are necessarily brief because of space requirements.

The references are classified under eight phases of public-school administration, namely, general administration, state school administration, city school administration, supervision, teaching staff, school finance, business management, and public relations.

GENERAL ADMINISTRATION

1. COOK, WILLIAM A. "Do the Public Schools Cost Too Much?" *Nation's Schools*, X (September, 1932), 31-34.
Explains increasing cost of public schools and cites numerous benefits to children from improvements in program and facilities.
2. FOWLKES, JOHN GUY. "Lowering School Costs and Raising the Quality of Instruction," *Nation's Schools*, X (September, 1932), 66-67.
A study of the relation of school costs to size of school and pupil-teacher ratio in the 423 high-school districts of Wisconsin.

3. GRAFFAM, DONALD T. "Sane Administration of Salary Retrenchment," *School Executives Magazine*, LII (September, 1932), 14-15, 37.
Methods of salary retrenchment are considered and evaluated.
4. GRAVES, FRANK PIERREPONT. *The Administration of American Education with Especial Reference to Personnel Factors*. New York: Macmillan Co., 1932. Pp. viii+632.
Interpretation of the principles of educational administration with emphasis on personnel problems affecting pupils and staff. Annotated chapter bibliographies are included.
5. HUTCHINS, ROBERT MAYNARD. "Education as a National Enterprise," *Journal of the National Education Association*, XXI (April, 1932), 111.
A fundamental statement of the ideal relationships and co-operations that should exist between institutions of learning on different levels.
6. KILZER, L. R. "The Development and Present Status of the Six-Year High School," *American School Board Journal*, LXXXV (October, 1932), 29-30.
After reviewing the literature on the subject, the authors recommend the six-year high school as a means of solving many of the problems in secondary education, especially in small school systems.
7. PEPPER, NATHANIEL. *Educational Experiments in Industry*. New York: Macmillan Co., 1932. Pp. 208.
A report of the conclusions of a year spent in appraising business management's attitude toward education. A study of education for occupational efficiency sponsored by the American Association for Adult Education. Material for vocational counselors.
8. STUDEBAKER, J. W. "Reducing School Costs," *School Executives Magazine*, LI (May, 1932), 387-89, 418.
A discussion of the important issues, showing distinction between economies and mere reduction in school costs.
9. WELTZIN, FREDERICK. "The New Tendency in the Tort Liability of School Districts," *American School Board Journal*, LXXXIV (April and May, 1932), 37-38, 92-93; 31-32.
Treats the liability of school boards to legal suits. The courts of Washington tend to construe the statutes more liberally in favor of injured parties than do the courts of Oregon. In the second article the author cites the California statutes and court decisions in California and New York on the liability of school districts in civil cases, not including breach of contract.

STATE SCHOOL ADMINISTRATION

10. CARR, WILLIAM G. "Ways To Create School Revenues," *Nation's Schools*, X (October, 1932), 35-39.
A discussion of the advantages for school support resulting from recent legislation in Missouri, North Carolina, and Utah.

11. *The Corporation Income Tax and Its Relation to School Revenue Systems*. Studies in State Educational Administration, No. 11. Washington: Research Division of the National Education Association, 1932. Pp. 20.
Traces the development of the corporation-income tax in the United States and explains its contribution to school support in certain states.
12. DAVIS, H. H. "New Sources of School Revenue and Tax Reduction for Real Property—The Inheritance Tax," *American School Board Journal*, LXXXV (September, 1932), 25, 79.
The inheritance tax as a new source of income for schools to supplement the waning income from taxes levied on real estate is considered, and illustrations of its use by certain states are given.
13. *Estimating State School Efficiency*. Research Bulletin of the National Education Association, Vol. X, No. 3. Washington: Research Division of the National Education Association, 1932. Pp. 77-132.
Analysis of applicable survey techniques, state-wide programs of achievement-testing, statistical analyses, and an evaluation of state school systems on five bases of efficiency. Three annotated bibliographies on state school surveys, extensive state testing programs, and statistical measures of efficiency are given.
14. GREENE, CRAWFORD. "How Arkansas Is Reorganizing Its High Schools," *Nation's Schools*, X (August, 1932), 26-32.
Explains the plan of the State Department of Education of Arkansas for improving curricular organization and the quality of teaching in high schools.
15. HILL, HENRY H. "How Thirteen States Standardize Their Elementary Schools," *Nation's Schools*, X (September, 1932), 60-65.
An analysis of the printed standards for elementary schools in thirteen states of the South, Middle West, and Far West.
16. PHILLIPS, FRANK M. "Educational Rank of the States, 1930," *American School Board Journal*, LXXXIV (April and May, 1932), 29-30, 39-40.
A comprehensive survey of all the states to determine by raw data and indices their relative educational ranks with respect to various items. The study is based on data concerning numerous types of school costs and expenditures, population, wealth, illiteracy, school attendance, and length of school terms. Continues the author's presentations in earlier issues of the same journal.
17. SEYFRIED, J. E. *Public School Budgetary Procedure in New Mexico*. University of New Mexico Bulletin, Vol. VI, No. 1. Albuquerque, New Mexico: University of New Mexico Press, 1932. Pp. 28.
A report based on questionnaires sent to superintendents in the state. Includes suggestions for improvement.
18. SPENCER, PAUL R. *A State Minimum Teachers' Salary Schedule*. Teachers College Contributions to Education, No. 519. New York: Teachers College, Columbia University, 1932. Pp. viii+150.
Recommendations are made with respect to a state minimum salary schedule to become a part of the minimum program of education proposed by the Educational Survey Commission of the State of Florida.

19. WATERMAN, IVAN R. *Equalization of the Burden of Support for Education*. University of California Publications in Education, Vol. VI, No. 5. Berkeley, California: University of California Press, 1932. Pp. viii+ (285-338).
Develops a technique for the appropriation of state school funds in order to equalize the financial burden among the several units of support.

CITY SCHOOL ADMINISTRATION

20. CLARK, ROBERT. "The Mobility of Public School Administrators," *School and Society*, XXXVI (October 15, 1932), 506-8.
A discussion based on statistics for West Virginia from 1863 to 1932
21. COOP, WALTER F. "The Status of Kentucky Boards of Education," *American School Board Journal*, LXXXV (October, 1932), 21-23, 72.
Information is presented regarding the qualifications of 423 board members in 67 cities of Kentucky.
22. CRACKS, C. R. "Organizing and Administering a Visual Instruction Program," *School Executives Magazine*, LII (September, 1932), 11-13, 38.
Considers the organization of a department of visual education for a city with a population of 30,000 to 50,000, the cost of equipment, and the methods of making the materials available for teachers.
23. GARVER, HARLIE. "The Superintendent Practices Economy," *Nation's Schools*, X (September, 1932), 42-46.
Suggests practical ways of reducing expenditures in a small city school system
24. GRILL, GEORGE W. *The Minutes of a Board of Education: A Handbook for Public-School Executives*. Milwaukee, Wisconsin: Bruce Publishing Co., 1932. Pp. xiv+216.
Contains valuable information for boards of education, secretaries, and public-school administrators.
25. HAND, H. C. "Stepping Stones to the Superintendency," *School Executives Magazine*, LII (October, 1932), 54-56.
Professional histories of 568 superintendents in cities with populations of less than 25,000 are analyzed and classified into 18 groups indicating the order of the promotions received in attaining the present superintendency.
26. HARDY, H. CLAUDE. *Evolution and the Development of the Office of Superintendent*. New York: Inou Publishing Co., Inc., 1932. Pp. 162.
Traces the development of the offices of district, city, and village superintendent of schools in Westchester County, New York, from the Colonial period.
27. HENZLIK, F. E. "Improving the Technique of Administration in Small School Systems," *School Executives Magazine*, LII (October, 1932), 51-53, 91.
Discusses the means of improving administration in small school systems. Fundamental knowledge and basic attitudes required of superintendents are indicated and considered.

28. HIGGINS, THOMAS J. "A Check List for Junior-High-School Buildings," *American School Board Journal*, LXXXV (August and September, 1932), 50-51, 66.
A complete list of the items to be considered in planning a building for a junior high school.
29. KIRK, II. H. "Short versus Lengthy Board Meetings," *American School Board Journal*, LXXXV (September, 1932), 23-24, 74.
Two methods followed by a board of education in the transaction of business are described, and advantages and disadvantages of each are considered.
30. "Local Practice in Selection of Teachers in 274 School Systems," Educational Research Service, Circular No. 4, 1932. Washington: Department of Superintendence and Research Division of the National Education Association, 1932. Pp. 12.
Summarizes the replies to a questionnaire on the procedures employed in the selection of teachers by 274 city school systems.
31. McCURE, WORTH. "The Superintendent as a Leader of Principals," *American School Board Journal*, LXXXV (October, 1932), 19-20.
Discusses significant programs of professional assistance to principals as carried on in progressive public-school systems.
32. PUCKETT, ROSWELL C. "The Length of the High-School Day," *American School Board Journal*, LXXXIV (May, 1932), 52.
A questionnaire study of the length of the school day in high schools enrolling one thousand or more pupils. Twenty-two tables covering various elements of the school day are given.
33. WALLER, J. FLINT. "Preparing for the Coming Battle for Tax Reduction," *Nation's Schools*, X (September, 1932), 55-56.
Discusses the superintendent's responsibility with relation to economy in school administration and acquainting the public with the work done by the schools.
34. WEET, HERBERT S. "The Schools of Rochester, New York," *School and Society*, XXXVI (October 8, 1932), 449-57.
A report of emergency economies during the last two school years, together with a discussion of the financial problems confronting the city and a sane pronouncement regarding the rôle of the teacher in the solution of these problems.
35. WEST, J. C., and OTHERS. *A Handbook for Boards of Education*. Grand Forks, North Dakota: J. C. West, 1932. Pp. 46.
An analysis of the duties of city boards of education.

[To be concluded]

Educational Writings

REVIEWS AND BOOK NOTES

Learning conditioned primarily by satisfaction.—Experiments on the learning process as conditioned primarily by the achievement of satisfactions are the subject of an extended report¹ by Professor Edward L. Thorndike. Through an elaborate series of experiments, Professor Thorndike attempted to test the influence on the establishment of bonds of such conditions as frequency of repetition of experiences, recency of contacts, and satisfactoriness or unsatisfactoriness of the outcomes of reactions. A popular presentation of the results of the experiments reported is to be found in an earlier volume entitled *Human Learning*.²

With regard to frequency of repetition as a possible condition favorable to the formation of bonds, Professor Thorndike reaches a wholly negative conclusion. This negative conclusion applies to both stimulations and reactions. With regard to unsatisfactoriness—or punishment, as Professor Thorndike elsewhere calls it—the conclusion is in the main negative, although the experiments show that unsatisfactory outcomes may tend to influence the learner away from certain reactions. The most definite conclusion from the experiments reported is that, whenever a connection in experience leads to satisfaction, it tends to become fixed.

Professor Thorndike has added in this and other recent discussions an important element to his well-known theory of bonds. He refers repeatedly to the fact that no bond is truly effective unless there is a certain "belonging" between the experiences involved. One explanation given in the present treatise of what is meant by this new concept is as follows:

It may perhaps be objected that the principle of "belonging" is mystical, so I note here that it has, to my mind, an absolutely material basis, its neural equivalent being temporally uninterrupted conduction from one locus to another. If, for example, there is, during time T, conduction from A to X, from B to Y, and from C to Z, X will "belong" to A, Y will "belong" to B, and Z will "belong" to C. The truth of the fact of belonging, is, however, entirely independent of this physiological explanation [p. 463].

¹ Edward L. Thorndike and the Staff of the Division of Psychology of the Institute of Educational Research of Teachers College, Columbia University, *The Fundamentals of Learning*. New York: Teachers College, Columbia University, 1932. Pp. xviii+638

² Edward L. Thorndike, *Human Learning*. New York: Century Co., 1931. Pp. 206.

The acceptance of the concept of "belonging" seems to permit a wholly new interpretation of the bond theory. This theory has up to this time been regarded by many of its adherents as dictating that all education shall be thought of as depending on the formation of an endless number of particular connections between situations and reactions. With the advent of the concept of "belonging," there seems to have come a recognition of the fact that mental life is made up not of bonds but of patterns, within which particular reactions have a certain appropriateness. The concept of organization seems to supersede the concept of mere collections of bonds. Education thus becomes a progressive organization of mental patterns.

The concept of "belonging," while clearly recognized as of importance, is not always given in Professor Thorndike's crucial experiments the place which it seems to deserve. When the effort is made to isolate a single condition, such as repetition or recency, Professor Thorndike depends for the most part on the reactions of adults and their use of language and seems to ignore the fact that the long-established methods of learning which have become fixed in the experiences of mature persons may result in certain influential "belongings" and "non-belongings." These established methods of learning may go far toward determining the outcomes of Professor Thorndike's experiments.

There is one possible misinterpretation of certain results described in this book and elsewhere which should, perhaps, be pointed out, in view of the danger that the multiplicity of technical details will confuse the ordinary reader. When they take the form of punishments, unfavorable outcomes, or "annoyers," have been thought in some quarters to be wholly ineffective in directing the learning process. This view is not the one accepted by Professor Thorndike. Nor is it the view justified by his experiments. Professor Thorndike says:

Rewards and punishments alike will teach by virtue of the conditions and activities which they produce in the animal. Rewards in general tend to maintain and strengthen any connection which leads to them. Punishments often but not always tend to shift from it to something else, and their educative value depends on what this something else is. They weaken the connection which produced them, when they do weaken it, by strengthening some competing connection [p. 277].

Professor Thorndike has done a service in pointing out repeatedly that the bond theory is capable of serious misapplication if it leads to the interpretation that education aims to establish a series of highly specialized connections. A paragraph and its appended footnote may be quoted to show how firmly the author of the bond theory believes in the interrelations between the experiences which enter into the learning process. He says:

The organization of connections. We have from time to time emphasized the extreme complexity of the organization of mental connections, especially in the case of man. Their number is legion. Their action varies with the mental set in which they act. Their first terms may operate piecemeal, forming preferential bonds. They may co-operate in an almost infinite number of combinations. They may possess different degrees of potency or weight in determining the total response. They include connections

releasing, restraining, depressing, and accentuating other connections. They include tendencies to attend and to neglect, to welcome and avoid, to put some processes in readiness and others in a refractory state.

[Appended footnote.] Many of the arguments and criticisms directed against connectionism are valid only against a narrow and oversimplified connectionism which would assert that mental life was nothing but a series of small isolated elements arranged in one row in time, and that each of them formed connections by itself alone and only with the one coming next after it [p. 428].

CHARLES H. JUDD

An evaluation and extension of the progressive-education philosophy.—After all, an experiment is only an experiment. It may lead to the confirmation of a hypothesis, but more frequently it leads to the rejection of a hypothesis. Any experimental series is therefore necessarily tentative and never final. Its outcomes must constantly be subjected to critical and perhaps (if the word doesn't frighten you) philosophical appraisement. By this time a sufficient body of experimental experience has accumulated to permit the evaluation of various aspects of the current educational enterprise. An able example of such an evaluation has appeared in a recent critical discussion¹ of the philosophy underlying the progressive-education movement.

The traditional school has been under fire for some time. The most concrete challenge is embodied in the modern progressive school. While progressive schools are strikingly unique, yet the author of this monograph regards their various programs as so similar that they may be referred to collectively as "the activity movement."

This movement has claimed the center of the educational stage for a length of time sufficient to have engendered widespread interest in its outcomes and in its basic philosophy. In this study an attempt has been made to discover the principles underlying the present activity movement, to determine the influence of traditional concepts in shaping the trends of the movement, and to see if in the light of the present knowledge of the child and his relation to his environment the movement rests upon a justifiable basis [p. vi].

The content employed to achieve the purpose announced in the preceding quotation is specified in more detail in the following titles of the eight chapters: "Types of Activity Schools," "Individual Freedom as Viewed by Rousseau," "Limitations of Freedom Placed by the Advocates of the Culture Epoch Theory," "A New Emphasis upon the Individual," "Freedom in the Light of Modern Biological Foundations," "The Unitary Point of View," "Conditions for Maximum Growth," and "Implications of the View for the Activity Movement."

For two reasons this monograph is timely. In the first place, the traditional school organization has been and is still in need of a thoroughgoing reconstruc-

¹ Clyde Hissong, *The Activity Movement*. Educational Psychology Monographs, No. 30. Baltimore. Warwick & York, Inc., 1932. Pp. x+122. \$2.10.

tion. Much of the agitation and the example for this reconstruction is coming from the progressive school. There is, therefore, general agreement that this modern experimental school contains validity for contemporary education, but its program and its philosophy are wrapped in such a vague, sentimental haze that it is difficult to determine exactly what that validity is. A partial determination of this validity is contained in this monograph. In the second place, recent advances in biology, psychology, social philosophy, and educational theory have been so convergent and fundamental that a distinctly new shift in the formulation of an educational philosophy is necessary. Sherrington, Jennings, Child, and Herrick in biology; Lashley and Koffka in psychology; Martin, Dewey, Chase, and Mead in social philosophy; and Rugg, Dewey, Bode, Hullfish, Kilpatrick, and Mearns in educational theory—these are a few representatives in the various fields whose work is forming the materials for a new shift in educational thought. In the judgment of the reviewer, the author of the present monograph has formulated this new orientation with considerable success.

On the other hand, the author has exposed himself to a few comments which may not necessarily be construed as criticisms.

In the first place, the author makes extensive use of quotations, probably an average of two quotations appear on each of the hundred and more full pages of the book. This monograph, if not the original thesis, is at least a modification of a thesis presented for the doctorate in the philosophy of education at Ohio State University. Footnotes and quotations are evidences of scholarship, and a moderate use of these devices is justifiable and essential. They protect the author against any suspicion of unacknowledged indebtedness, they indicate the extent of his reading, and they give proof of the fairness of the author to the views which he attacks. If, however, the line is not drawn rather definitely, the text quickly degenerates into the confused style of the *Literary Digest's* collection of editorial opinions, and the reader begins to suspect that the author is irrelevant and lacks originality. For example, if Baldwin (J. M., not J. W.) has no more to offer than the quotation on page 86 and if Agnes de Lima has nothing more to contribute than the example on page 107, why bother at all to clutter up the book with such irrelevant insertions?

The author also gives evidence of a slight blind spot in the use of the literature. He apparently ignores the organismic point of view in psychology of Tolman, and he takes no notice of the self-psychology of Calkins and Stern, all three of whom are just as germane to the unitary point of view as Lashley, Child, and Koffka. Again, in the concluding chapter, in which the author discusses at some length the theory of generalization as an implication of the unitary view, he is obviously not aware of the fact that Judd's famous experiment on transfer of training antedates Dewey's *How We Think* by two years and that Judd's chapter on generalization in his *Psychology of High School Subjects* (1915) antedates Bode's *Modern Educational Theories* (1927) by twelve years and the latter's *Conflicting Psychologies of Learning* (1929) by fourteen years. Judd's work needs no defense on the part of the reviewer, but in a monograph which gives an average

of two quotations to a full page of text and which makes such a patent attempt to cover the contemporary scene, it is rather distressing to find so palpable a neglect of one of the outstanding contributions to educational theory, particularly when, as in the present instance, the theory of generalization constitutes one of the major ingredients of the author's own contribution. Finally, the author does not caution the reader to keep in mind that Lashley's experiments on the influence of brain extirpation on learning were conducted for the most part with rats and not with human beings. While Lashley's work has undeniably been epoch-making, it is still wise to be conservative in the application of his results to human behavior.

The tenor of the foregoing comments may be entirely misleading. The monograph is a genuine service to anyone attempting to orient his thinking in the midst of the flux of modern educational practice and theory. It does, as far as the reviewer is aware, what no other discussion of current educational theory attempts to do; it gives historical and contemporary perspective. It is lucid and concise. *It avoids the redundancy, superfluity, and vagueness of the movement which it evaluates.* While it makes no impossible demand on the probable background of the average educator, nevertheless, in emphasis at least, it constitutes a tangible contribution to educational thinking. *It is theoretical, not practical;* but a principal, a superintendent, a supervisor, a teacher, or even an amateur layman could not come through a reading of this monograph without a wider sweep in his vision and without glimpsing more meaning in the immediate routine with which he is absorbed. This book should aid members of the educational tribe to set themselves in a path that has direction.

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The rise of the teachers' college.—The teachers' college with full collegiate status is a relatively new institution. A recent study¹ traces the evolution of the normal school of forty years ago into the teachers' college of today with respect to the development of the curriculum, changes in the teaching personnel, and several minor adjustments.

The normal school of a generation ago was of secondary rank and so poorly articulated with the educational system that training given by it contributed but little to the academic progress of those who were led into this educational by-path. Cultural training, although to some extent tolerated, was not considered a function of the professional school. Students with no more training than that received in the elementary schools were admitted to short courses. The teachers' college of today is an articulated member of the educational system. The requirements for admission and graduation compare favorably with those of pure-

¹ Jessie M. Pangburn, *The Evolution of the American Teachers College*. Teachers College Contributions to Education, No. 500. New York: Teachers College, Columbia University, 1932. Pp. vi+140. \$1.50.

ly academic colleges. The period of training is four years, and in many instances a year of graduate work has been added.

Although the germ of the teachers' college was present in the normal school, the transformation has been made largely in response to changed needs and conditions in public education, which are closely related to the social and economic changes of the last forty years. Increased prosperity provided a larger amount of time available for the education of the young and enabled the community to provide a less limited training. This extension resulted in a vastly enriched content of the public-school curriculum, both elementary and secondary, and the rapid growth of the high school. Teachers were too poorly trained to meet the requirements of the new order, and the normal school introduced types of preparation which the school system demanded. The decentralized control characteristic of the American educational system made possible much variation in the practices and policies of the public school and also the teacher-training school. The author brings out the fact that, in America at least, educational changes follow social and economic changes and are conditioned by them.

The study examines major phases of the development of the curriculums. These phases embrace (1) the expansion of the curriculum through extending the length of the period of preparation for teaching, enlarging the scope of preparation, and increasing the number of curriculums offered; (2) the change in the content of the curriculum to include cultural training and the new material of a professional nature brought forth by investigators in such fields as tests and measurements, child study, and psychology; and (3) the emergence of new curriculum goals, such as the baccalaureate degree and the recognition of other educational institutions and accrediting agencies.

The author discusses the evolution of the instructional staff with respect to (1) personal qualities, (2) teaching experience, (3) scholastic degrees, and (4) productive scholarship. She finds that the quality of the faculty of the teachers' college has been improved by raising the requirements for employment in this institution and that the reduction of the teaching load has increased the efficiency of instruction.

Certain other phases of the evolution of the teachers' college from the normal school are discussed. These include (1) the progress toward agreement among teacher-training institutions with respect to policies and standards, (2) the extent of the movement, (3) the tendency to utilize the results of research in determining practices, and (4) the relation between the teachers' college and other institutions that provide professional preparation for teachers.

The interpretation of the entire development in terms of social and economic change operating directly on the school system, and thus on the normal school, appears entirely defensible. The discussion is adequate, and the organization is excellent. Too many references are made to the practices of a small number of "representative" schools, and the presentation is marred by an occasional awkward and involved sentence. The study is, however, an excellent contribution to the history of American education.

HERMAN G. RICHEY

Methods of surveying health and physical-education practices and procedures.—The survey technique as a scientific educational tool has long been in use. The health-education movement has not been in existence so long, but it has gained enough headway to merit more consideration than it has received at the hands of surveyors. One possible explanation for the slight consideration given in surveys to health and physical education has been, no doubt, the absence of a well-formulated technique for this purpose. A recent volume¹ may contribute materially to survey procedures in this field.

The volume may be divided into two parts: the general discussion, pages 1 to 96, and the Appendix. The first part presents the procedures used in determining the methods and techniques that should be used in making a survey of the health and physical-education aspects of a school system and the duties of surveyors in carrying on such a survey. The real contribution lies in two sections of the Appendix: Section B, "Detailed Aspects of Health and Physical Education," and Section D, "Health and Physical Education Survey Forms Used in Fort Worth, Texas, Schools, 1931."

Anyone planning a school survey and desiring to give health and physical education due emphasis will find much assistance in this monograph.

CLEM O. THOMPSON

Measurement of spelling ability.—Until relatively recently designers of spelling tests have clung tenaciously to ancient patterns. While test-makers in other subjects have employed varying techniques, the spelling experts have seldom ventured from the old word- and sentence-dictation formulas. Within the last six or eight years, however, there has been considerable experimentation with new types of test items in spelling tests, with the result that some of the newer forms of tests in this field are ready for more general use. Has it ever occurred to the reader that it might be possible to measure spelling ability as one measures reading ability or arithmetical ability, that is, by submitting to the pupil a list of objective-test items with appropriate directions and permitting him to react to the items without the intervention of the teacher?

The latest contribution dealing with this problem has been made by W. W. Cook.² The investigation includes three distinct experiments and was conducted with eighth-grade pupils.

The first experiment deals with the selection of test words with regard to difficulty and discriminating power, and the establishment of the optimum administration time for list dictation spelling tests. The second experiment deals with the establishment of

¹ Elwood Craig Davis, *Methods and Techniques Used in Surveying Health and Physical Education in City Schools. An Analysis and Evaluation.* Teachers College Contributions to Education, No. 515. New York: Teachers College, Columbia University, 1932. Pp. viii+162. \$2.00.

² Walter Wellman Cook, *The Measurement of General Spelling Ability Involving Controlled Comparisons between Techniques.* University of Iowa Studies in Education, Vol. VI, No. 6. Iowa City, Iowa: University of Iowa, 1932. Pp. 112. \$1.00.

the optimum administration time for and the subsequent evaluation of six self-administering test techniques when spelling ability is defined in terms of the number of correct spellings of a limited group of frequently used words. The third experiment deals with the evaluation of six self-administering test techniques when spelling ability is defined in terms of the percentage of correct spellings in first-draft schoolroom writing [pp. 11-12].

In the first experiment it was found, within the limits considered, that the mean difficulty of the test words does not significantly affect the reliability of the scores but does affect their validity. The validity increased the nearer the mean difficulty approached 50 per cent. It was also found that a test containing words of one level of difficulty was more reliable but not more valid than a test containing words of widely distributed difficulty. The first of these findings tends to confirm the conclusions of several other investigators.

The second experiment contains the important results concerning the evaluation of the six different self-administering spelling tests. If space permitted, it would be helpful to give examples of the various types of items used in these tests. For the sake of brevity, however, illustration must be confined to the form of test which obtained first rank in validity. This test is referred to as a "word-in-sentence recall" test and contains items like the following:

1. I am *greatfull* for your assistance

The pupil is directed to write the correct spelling of the italicized word. With the optimum time allowance, this test had a reliability coefficient of .93 and a validity coefficient of .85. The results confirm the conclusions reached in two previous investigations (Walter S. Guiler, "Validation of Methods of Testing Spelling," *Journal of Educational Research*, XX [October, 1929], 181-89; Frederick S. Breed, "New Developments in Measuring Spelling Ability," *Normal Instructor and Primary Plans*, XL [December, 1930], 58, 77, 78). In the last-named of these two studies this error-correction test, in four tryouts with different lists of words in different grades, was found to have an average validity of .94. The difference between the validity coefficients may be partly due to the fact that Cook's tests were administered by classroom teachers supplied with a complicated six-page list of directions, whereas in the other experiment the tests were administered by the investigator.

On the basis of earlier results, the reviewer has recommended the use of this test for the measurement of spelling ability in the public schools. It is a pleasure to have this recommendation supported by Cook's more elaborate study. Aside from the method of collecting the original data, the monograph is an outstanding contribution to test construction in spelling.

FREDERICK S. BREED

Recording the actions of boards of education.—A recent volume¹ of more than two hundred pages emphasizes the necessity of good form and accuracy in the

¹ George W. Grill, *The Minutes of a Board of Education: A Handbook for Public-School Executives*. Milwaukee, Wisconsin: Bruce Publishing Co., 1932. Pp. xiv+216. \$3.00.

minutes of a board of education and outlines in detail typical board actions dealing with teachers, pupils, custodians, finance, bonds, real estate, building construction, maintenance, and supplies and textbooks. Strange to say, no reference is made to the necessary action of placing building insurance, although this necessity is an important problem in many school systems.

The author shows the effect of his experience as secretary of a board of education. Evidently he has a wide familiarity with the legal aspects of school-board business and knows how to safeguard board actions in transactions involving the erection of buildings, the issuance of bonds, and the spreading of tax levies. In the opinion of the reviewer, the discussion of these topics constitutes the most valuable part of the book.

Mr. Grill has the modern conception of the relation that should exist between the board of education and its various employees. Especially does he insist that the superintendent of schools, as chief executive of the school system, must be given large powers and be held responsible for results.

There is much repetition in the examples of the wording of resolutions and the recording of votes. One wonders why these were not greatly abbreviated.

The volume deals with a field which has not been given sufficient attention in educational literature. It will be of general interest to all who are responsible for public-school administration and will be especially helpful to inexperienced members of boards of education and all board secretaries. If closely followed, it will insure accurate school-board records and may save school districts from costly litigation by directing board procedure along strictly legal lines.

FLOYD T. GOODIER

SUPERINTENDENT OF SCHOOLS
CHICAGO HEIGHTS, ILLINOIS

Social science for junior high schools.—With the sixth volume of his Social Science Course,¹ Harold Rugg has given to junior high school teachers the last of a notable series. This volume is not the traditional textbook. Rather, it is one of six reading books which together constitute a unified course in social science for the junior high school. Like the fifth volume, it is described as "a self-contained elementary treatment of world-culture" (p. v).

The problem of the place and the content of the social studies in the junior high school is a most trying one. According to Rugg, the social complex can be best understood through the medium of a unified course rather than through several separate subjects. Nine years of investigation have convinced the author that the social studies should be the "intellectual core" of the curriculum, with more than sixty minutes of daily class time devoted to such a course. To do justice to these books, one must approach them in the light of their author's conception of the function of the social studies in the life of the pupil, and one

¹ Harold Rugg, *Changing Governments and Changing Cultures: The World's March toward Democracy* Boston: Ginn & Co., 1932. Pp. xvi+702 \$2.00.

must judge them not as textbooks but as reading books. In the Preface to this volume there will be found a brief explanation of Rugg's unique approach, and the footnote on page x gives a very complete bibliography which the teacher should study carefully before attempting to use the book in his classes.

The principal theme of the present volume is the onward march of democracy, interwoven with the story of the rise of our modern industrial civilization. Beginning with a dramatically pictured sketch of the changing world in which we live, the author first tells the story of the beginnings of our new age, taking 1500 as the starting point. New ways of thinking and the contributions of "frontier thinkers" help explain the march toward democracy in England, France, and Germany. The expansion of the industrial nations and the coming of the World War receive brief but adequate treatment. Two chapters are devoted to Russia and the Soviet experiment. Especially valuable are the chapters on the "lively arts" and the fine arts of industrial Europe. The changing civilizations of China, India, and Japan are described, while Mexico is brought into the narrative as an illustration of a civilization that does not change. Chapter xxiv tells how the modern states are governed and shows the trend from monarchy to democracy. The concluding chapter is entitled "World Conflict versus World Organization."

The course is given a unit organization, ten units being provided for the semester's work. Illustrations, maps, and references are especially well suited to the junior high school level, and excellent use is made of simple graphs and tables. The author's style is personal, direct, and dramatic. He does not make the mistake of "talking down" to ninth-grade pupils. The approach is historical in a very complete sense in that social, economic, political, geographic, and cultural factors are shown in their relation to each other. The teacher of the traditional type of school history has much to learn in this respect.

In the Preface the author points out the importance of accuracy in the use of facts. In the main, he seems to have heeded his own warning. At times, however, there is a tendency toward over-simplification for the sake of brevity which verges on historical inaccuracy. Is it not misleading, for example, to date the Industrial Revolution from 1500 (pp. 21, 90) when the introduction of power-driven machinery did not begin until well after 1700? The manor is described as a cluster "of thatched peasant cottages surrounding the manor house or castle" (p. 33), while in reality it included fields, forests, and commons as well as the peasant village and manor house. It is hardly accurate to describe the British Constitution as a "written constitution" (pp. 156, 254) when so much of it is unwritten. The Kaiser was German emperor (*Deutscher Kaiser*), not the "emperor of Germany" (p. 351). To the German princes in 1871 this was hardly a distinction without a difference. It seems a pity that in the treatment of the British Empire no attention is paid to the very significant and relatively recent evolution of the British Commonwealth of Nations. In a book on changing governments and cultures, which devotes fifty-five pages to Russia and the Soviet experiment, it seems strange that the equally significant Fascist experi-

ment in Italy should be barely mentioned. In the reviewer's opinion, a unit on Fascist Italy and the implications of Fascism in other countries might well have been substituted for the unit on changeless Mexico.

BURR W. PHILLIPS

UNIVERSITY OF WISCONSIN

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Bulletin No. 21, 1932—*Land-Grant Colleges and Universities: Year Ended June 30, 1931*, by Walter J. Greenleaf.

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Educational News and Editorial Comment

THE CITIZENS' CONFERENCE ON THE CRISIS IN EDUCATION

On January 5, 1933, there assembled in Washington, D.C., a citizens' conference called by President Hoover to consider the present crisis in American education. In contrast with certain local citizens' committees, this conference was composed of citizens representing the most diverse interests in American life. It was, in fact, conducted with the official co-operation of such organizations as the following: the American Council on Education, the American Farm Bureau Federation, the American Federation of Labor, the National Association of Manufacturers, and the National Grange. The conference included among its members outstanding educational leaders, publishers, bankers, lawyers, and representatives of labor, agriculture, business, and industry.

In opening the conference, President Hoover made it perfectly clear that he regards public education as the first charge on government and that, in his opinion, American society cannot afford, even in times of severe economic depression, to restrict the educational opportunities of its youth. The President's statement is quoted in full.

Our nation faces the acute responsibility of providing a right of way for the American child. In spite of our economic, social, and governmental difficulties, our future citizens must be built up now. We may delay other problems, but we cannot delay the day-to-day care and instruction of our children.

This conference is unusual in that it invites the co-operation of men of widely different points of view in the consideration of our school and tax system from the standpoint of maintaining the welfare of the children of today.

Our governmental forces have grown unevenly and along with our astounding national development. We are now forced to make decisions on the merits of the various expenditures. But in the rigid governmental economies that are requisite everywhere we must not encroach upon the schools or reduce the opportunity of the child through the school to develop adequate citizenship. There is no safety for our Republic without the education of our youth. That is the first charge upon all citizens and local governments.

I have confidence that with adequate reduction of expenditures there can be ample amounts obtained from reasonable taxation to keep our school system intact and functioning satisfactorily. Those in charge of the schools must be willing to face conditions as they are, to co-operate in discarding all unnecessary expenditure, to analyze all procedures, and to carry forward on a solid basis of economy. But the schools must be carried on.

I wish to thank you for giving of your time and coming here to Washington for this meeting. I trust that out of it will come recommendations that will be of national significance. Above all, may I ask that throughout your deliberations you bear in mind that the proper care and training of our children is more important than any other process that is carried on by our government. If we are to continue to educate our children, we must keep and sustain our teachers and our schools.

The Agenda Committee, if one may judge from the agenda which it submitted and from the President's opening remarks, seems to have misinterpreted the President's purpose in calling the conference. This committee seems to have assumed that the main purpose of the conference was to consider administrative policies which would result in the greatest economy with the least impairment of school efficiency. The conference was not long in session, however, before there developed a conviction that it could not confine its deliberations to possible fields and modes of school economies. It soon became apparent that the conference could not escape a consideration of the fundamental relations between the school and the social and economic order. After a period of preliminary discussion the conference was divided into six discussion groups, or committees, for the consideration of the following problems: relation of expendi-

tures for education to expenditures for other public services, organization and operation of instruction, building, free schooling at higher levels, relations of schools and other social agencies, and legislation.

A number of the recommendations made by the committees and adopted by the conference are extremely significant. The principles advocated in the report of the Committee on Relations of Expenditures for Education to Expenditures for Other Public Services are among the most important adopted by the conference. These were:

WHEREAS, This conference is informed by the United States Commissioner of Education, on the basis of reports received by his office during the early months of the present school year from the school systems of thirty-two states, that school budgets had been reduced at the time reports were received by an average of 15 per cent; and

WHEREAS, The conference is further informed that additional drastic cuts in budgets and salaries have been made during recent months, amounting in many localities to as much as 25 to 40 per cent, and that schools in a number of states and localities have been closed completely, thus depriving children of all educational opportunities; and

WHEREAS, Education is an important public function; and

WHEREAS, The loss of educational opportunity by youth is irreplaceable; therefore be it

Resolved, That the educational service should be accorded a high degree of priority in determining the purposes and services which shall be supported by the states during a depression.

The committee offers also the following:

1. The major wastes in education should be eliminated through the elimination of control and interference by politicians, of political appointments, and of political corruption.

2. Local governments and local school districts should be reorganized and consolidated.

3. Administrative control of the schools must be centralized in the superintendent.

4. State administrative organization of education must be reorganized through the creation of a non-political and professional agency for the administration of the educational policies of the state.

5. The state must assume the responsibility within its means of assuring adequate public education to all local communities, irrespective of their financial condition.

6. [Paragraph 2 of the report of the legislative committee was substituted for this recommendation. That paragraph was similar in content to the recommendation here made.]

7. All governments, local, state, and national, must direct attention to the immediate reformation of the system of taxation.

President Robert Maynard Hutchins, of the University of Chicago, submitted a recommendation which, after amendment, was adopted by the conference in the following form:

8. Immediate efforts should be made through the raising of the general level of commodity prices, the correction of serious economic maladjustments, and otherwise, to increase the volume of income and purchasing power, and thus to provide the moneys necessary for a proper educational program. If this is not done, widespread injury will result, not only to the cause of education, but to the value of all obligations, public and private.

The following resolution was introduced by Professor H. L. Lutz, of Princeton University, and was adopted by the conference.

9. WHEREAS, A serious decline has occurred in the volume of the national income, and whereas grave injury has consequently been done to the cause of education through injudicious and unwise reduction of educational programs, the closing of schools, and otherwise; and

WHEREAS, The assurance of adequate educational opportunity to all children is a fundamental social obligation which will not properly be met unless the volume of income and purchasing power is promptly restored to a higher level; and

WHEREAS, This conference is deeply impressed with the seriousness of this situation but feels that the suggestion of adequate remedies is beyond the scope of its instructions and mission; therefore be it

Resolved, That this conference respectfully direct the attention of the President and the Congress to these conditions, and be it further

Resolved, That this conference recommend the careful consideration by another conference or otherwise, of steps deemed appropriate and necessary for increasing the level of income and purchasing power.

The conference adopted the following recommendations submitted by the Committee on Organization and Operation of Instruction.

I. LENGTH OF THE SCHOOL YEAR

We recommend that the conference go on record as opposed to the shortening of the school year below that existing previous to the depression, because such action will be a limitation upon the educational opportunities of the children, which in the long run will be neither economically nor educationally profitable.

II. TEACHER LOAD

We recommend that the teaching load be not increased either in courses or hours, beyond the ability of the individual teacher to offer a reasonable stand-

ard of instruction to each pupil, and that the teacher load be adjusted in relation to the quality of supervision, the experience and qualifications of the teacher, the provisions for exceptional pupils, and the methods of grouping pupils.

III. SIZE OF CLASSES

We recommend that the size of the classes in all special subjects such as art, music, manual and domestic arts be made as large as that of the average academic class, that the amount of time (that is, the number of periods) given to the laboratory sciences be the same as that given to other academic subjects; and that the accrediting agencies be urged to modify their standards accordingly.

In the interests of economy it is further recommended that the requirements of the Federal Board for Vocational Education be re-studied and revised.

IV. TEACHERS' SALARIES

We recommend that all possible economies in school costs such as the postponing of building construction when and where practicable, the reorganization of business departments; the adjustment of the size of class; and the curtailing of the activities of auxiliary agencies, etc., be made before a readjustment of teachers' salaries is effected.

We further recommend that such readjustment of salaries, if necessary, should be made in relation to the reduction in the cost of living of the teaching group in any given community.

This committee also adopted the following statements with regard to retrenchment in public expenditures for education.

[This committee] found it difficult to make definite suggestions for economies in school expenditures because of the lack of definite information on school costs. For this reason we regret that it was found necessary to discontinue the study of school finance carried on under the direction of the United States Office of Education and express the hope that at an early date ways may be found to resume that important and especially timely study.

We call the attention of the conference to the fact that widespread and drastic reductions in budgets for public-school education have been made by boards of education and superintendents of schools in almost every community, large and small, in the United States. While no definite information is available as to the exact amounts such budgets have been reduced, the records of the Office of Education show that they range from 15 per cent to 100 per cent. It is reported that over 4,500 school districts have closed their schools entirely. A part of the crisis in public education at this time is due to the insistent demand that school budgets, which have already been reduced below the point where it is possible to operate the schools with any degree of efficiency, shall be further reduced. We go on record as opposed to this unwise and basically uneconomical procedure.

In conclusion, the difficulty in being precise and definite in estimating the damage done to schools through unwise retrenchments is that the public schools never have a completed product. No teacher ever sees the results of her instruction. For this reason it is difficult to point out the immediate harm to the school children of meager and insufficient educational supplies; of overcrowded classes; of poorly prepared teachers; or of a shortened school term. The bad results of such conditions may not show themselves for a decade.

This conference will perform a great service if it brings home to the people this basic fact, namely, that we will pay heavily in the future if our educational machinery is allowed to break down today.

The report of the Committee on Free Schooling at Higher Levels contained the following statement.

It is the judgment of this committee that it is possible, through such a financial system as will render all the wealth and income of the nation equitably liable to taxation, to provide for the proper support of the American plan of education in each of the states of the Union. This American plan is based upon the principle of an equality of opportunity for all youth to secure a complete education, and upon the continuance of appropriate instruction of those adult individuals and classes in need of effective adjustment to the changing economic and social conditions.

The recommendations of the Legislative Committee were as follows:

1. *Resolved*, That this conference urge law-making bodies to give priority to legislation which will alleviate conditions in communities now being required to make injurious curtailments in their school programs because of unusual burdens, inequitable tax systems, or faulty fiscal machinery; and be it further

Resolved, That the legislative bodies deal with this vital function of our government not only as an emergency measure but take such steps as may be necessary to treat with it successfully for a period of years with full recognition of the states' obligation to provide for an adequate system of public schools.

2. *Resolved*, That we urge the Congress to provide for federal assistance through emergency loans for a limited period to such states as may make an adequate showing of their inability to maintain reasonable standards of support for public-school education.

3. *Resolved*, That the states in which there are local school districts too small for the provision of complete educational systems, having inadequate educational and business management, make provision for a reorganization of such districts along efficient and economical lines.

The conference recognized, of course, that the suggestion of adequate detailed remedies lay beyond the scope of its instructions and

that under no circumstances could detailed policies be worked out in a brief session of two days. It did suggest, however, the possibility of another conference for the purpose of devising means of implementing some of its major proposals. The report of the Committee on Relations of Schools and Other Social Agencies also contained the following proposals with respect to the need of a continuing nationwide effort to deal with the present crisis in education through the medium of local councils of representative citizens.

1. We are impressed with the need of a better understanding of our social purposes and a clarification of our social values if the present crisis in education is to be turned to future account. This is not a subject with which a single conference can deal, but the necessity for a nation-wide continuing effort to deal with this problem seems obvious.

2. The peculiar position of public education in our democracy, supported and guided by local initiative and directly accountable to it suggests that there should be set up in every locality, councils broadly representative to mobilize and clarify public opinion in order to deal more generously and wisely with the present crisis in education.

Whatever direct action may result from the recommendations of the conference, these recommendations will no doubt influence popular thinking with respect to public education. In the first place, the conclusions will serve to direct attention to the fact that no adequate solution of the problems confronting education can be reached through resort to mere administrative devices and formulas. The recommendations will serve, moreover, to make it obvious that changes in educational policy must be worked out in terms of fundamental social values and long-time social consequences. It is extremely fortunate that the conference refused to become involved in an attempt to provide specific formulas for reducing school budgets and that it directed its deliberations to the discovery of possible means of maintaining an adequate educational service. It is clear that the conference was by no means disposed to accept further retrenchment as the only solution of the present crisis in education. It may be hoped that local citizens' councils throughout the country may follow the example set by the Washington conference.

THE CITIZENS' COMMITTEE IN CHICAGO

In March, 1932, there was organized in Chicago a Citizens' Committee on Public Expenditures. In sharp contrast with the citizens' conference recently held in Washington, which has been described in the preceding paragraphs, the Chicago committee is composed almost entirely, if not exclusively, of representatives of the large business interests and the large taxpayers of the city. In the public press this committee is referred to as the committee of one hundred, although, so far as can be ascertained, the active work of the committee is being carried on by a small group of approximately thirty members. An examination of the business affiliations of these thirty members shows that the banking interests of the city are particularly well represented. Nine of the members are on the board of directors of one or another of the four largest banks of the city, and two of the nine are directors of two of these banks. So far as can be ascertained, however, no attempt was made to include in the membership of the committee representatives of labor, education, the welfare agencies, municipal government, or any of the other varied interests of the city. The assumption seems to be that representatives of the large tax-paying interests will adequately represent the interests of the city at large. This assumption is expressed by the chairman of the committee, Fred W. Sargent, president of the Chicago and North Western Railway, writing in a recent issue of the *Saturday Evening Post* under the caption "The Taxpayer Takes Charge." Mr. Sargent says:

Banks, insurance companies, the railroads, the great retail stores, mail-order houses, hotels, steel companies, and other manufacturing establishments have a stake in Chicago, and yet, curiously enough, they are now, for the first time in years, expressing a lively interest in the problems of municipal affairs. A smaller group, as spokesmen for these big tax-paying organizations *as well as the myriads of less-articulate taxpayers* [italics not in the original] are doing the work that has to be done.

The composition of a citizens' committee which sets itself vigorously to the task of reducing public expenditures, as this committee has done, is a matter of no slight importance. In this connection the fact cannot be lost sight of that perhaps the most important function of government is the determination of those public services which government shall support, together with the determination

of the relative support which the various public services shall receive. This responsibility rests squarely on the shoulders of public officials, and it is a responsibility which they can neither evade nor escape. It is entirely appropriate, indeed it is often desirable, that committees or councils of citizens representing the diverse interests of a community express the sense of the community with regard to the expenditure of public funds, both with respect to the gross amount to be spent and with respect to the public services which are of the most value. The case is entirely different, however, when the committee is an exclusive group representing only the large business interests of the community. And the case is still different when, as in Chicago, the committee is practically the spokesmen of the banking interests to whom the city must look for the purchase of its securities in order that it may carry on the functions of government and protect its credit. In such a case the committee practically usurps one of the major functions of government because it speaks with an authority and a sanction which public officials will rarely find the courage to disregard. That such measure of control is actually being exerted by the Chicago committee is evidenced by the following statement in the article by Mr. Sargent to which reference has been made: "But they [the banks] have shown that they positively will not lend money for any municipal function which does not have our active support. This has been a powerful lever in dealing with the really small number of recalcitrants in public office who still cling to a faith in a Santa Claus."

It may not be inappropriate to point out, too, that the existence of such extra-legal committees finds no justification in American principles of political organization; in the existence of such committees there is a danger to representative institutions which cannot be ignored.

The Chicago committee has succeeded in compelling material reductions in gross public expenditures. It has, moreover, dictated without hesitation the maximum income which the several governmental agencies of the community may derive from taxation. In its scale of social values public education ranks low. In comparison with municipal government proper, the Chicago Board of Education has been forced to take a disproportionate reduction in its budget. The

facts are as follows: The inequalities in the regular quadrennial assessment of 1927 were so glaring that the State Tax Commission ordered a reassessment, which was completed in 1930. Under the new assessment there was a reduction in evaluation. In making its budget for 1932, the City Council, without objection on the part of the citizens' committee, applied the maximum legal rate of taxation for municipal purposes to the estimated reduced valuation. The Board of Education followed the same procedure in making its budget, and, as a result of the reduced valuation, there was a necessary reduction in its levy of \$18,000,000. The citizens' committee, however, was not satisfied with this reduction. It demanded and succeeded in forcing an additional reduction of \$15,000,000 in the tax levy for school purposes. The net result was that, in comparison with the levies of the previous year, the Board of Education suffered a reduction of 28 per cent whereas the city and the county governments suffered reductions of 17 per cent and 4 per cent, respectively.

A comparison of the demands of the citizens' committee for budget reductions in 1933 shows clearly that the committee is determined to force on the Board of Education a much more drastic reduction than that forced on the City Council. The legislature of Illinois has fixed a maximum tax rate for various municipal purposes and a maximum tax rate for various educational purposes. If these tax rates were applied to the assessed valuation, the maximum legal levy, as may be seen from the following tabulation, would be \$57,528,900 for the city government and \$72,935,000 for the Board of Education. The citizens' committee is demanding that the levy for the city be reduced to \$51,600,000 and that the levy for the board be reduced to \$48,000,000. In other words, the committee is demanding that in the case of the Board of Education the percentage of reduction below the maximum levy authorized by law be more than three times as great as in the case of the City Council.

	Maximum Legal Levy	Levy De- manded by Citizens' Committee	Percentage below Statutory Authorization
City	\$57,528,900	\$51,600,000	10.3
Board of Education..	72,935,000	48,000,000	34.2

It is obvious that, in forcing on the Board of Education a disproportionate reduction in its levies, the committee is assuming to de-

termine the relative values of important public services in Chicago. *It is difficult to believe that the committee, in placing a relatively low value on public education, is representing the sense of the community.* Indeed, all the evidence points directly to the contrary. It is to be assumed that, when the legislature determined the maximum tax rates which could be applied to the support of the various public services, it gave expression to its estimate of the relative importance of these services. It would seem, therefore, that the committee is determined to substitute its own will for the expressed will of the legally chosen representatives of the people.

There is another aspect of the whole matter which cannot be ignored. The committee membership includes, so far as can be ascertained, not a single representative of the public-school interests of Chicago. Indeed, the committee does not seem to have arrived at any intelligent understanding of many of the problems which the schools are facing at the present time. For example, the cost of education has inevitably increased, and that very rapidly, because of the tremendous increase in high-school attendance. Something of the magnitude of the problem of supplying adequate instructional facilities for high-school pupils may be seen from the statistics of enrolment. In 1893 there were enrolled in the high-school grades in Chicago 5,383 pupils. In 1925 the total membership of the high-school grades (Grades IX to XII, inclusive) was 62,372 pupils; in 1932 the pupil membership in these grades was 120,565. The year 1925 marked the close of the first seventy years in the history of the high schools of Chicago. The foregoing figures reveal the fact that during the next seven years these high schools added to their enrolment approximately as many pupils as were in attendance at the end of the first seventy years of their history. In the two-year period 1930-32 membership in the high-school grades increased from 97,587 to 120,565, an increase of 22,978. The magnitude of this recent increase in enrolment is brought out more fully when it is recalled that in 1921 the total high-school enrolment was only 34,263. Thus, the increase in enrolment from September, 1930, to September, 1932, constituted 67 per cent of the total enrolment in 1921. Putting the matter another way, in 1920, 29 per cent, or 33,000, of the boys and girls in Chicago sixteen and seventeen years of age were in school.

In 1930, 57 per cent, or 66,846, of the young people of these ages were in school.

This increase in the high-school enrolment is due in large measure to the steady decrease in the employment of children in recent years and to the reduction of employment for persons of all ages during the depression. In 1920, in Chicago, forty-five in every hundred children between the ages of fourteen and seventeen were working; in 1930 only nineteen in every hundred of the same ages were employed. The fact is too patent for discussion that the depression and even the policies of industry itself are adding to the magnitude of the schools' burdens. Moreover, the schools have no choice but to meet the situation as best they can; society simply cannot permit the youth whom industry cannot absorb to grow up in idleness and to drift into crime. It is, indeed, difficult to understand the type of intelligence which cannot see that the school is the one institution which society can best employ to safeguard youth and its own future in times of severe economic and social readjustment.

AMERICAN INFLUENCE ON EDUCATION IN CHINA

In 1931 the Chinese government requested the League of Nations to appoint a commission of experts to study existing educational conditions in China and to make recommendations with respect to a program of reform. The League's mission appointed to make the investigation was composed of Professor Carl H. Becker, of the University of Berlin, formerly Prussian minister of education; Professor M. Falski, director of primary education at the Polish Ministry of Public Education; Professor P. Langevin, of the Collège de France; and Professor R. H. Tawney, of the London School of Economics and Political Science. The report of the commission, entitled *The Reorganization of Education in China*, has recently been published by the League of Nations' Institute of Intellectual Cooperation, Paris.

The commission finds a great many things wrong with the educational system of China, but perhaps the most trenchant criticism is directed toward what is regarded as an unwholesome imitation of foreign educational models. The commission warns China sharply that it must cease to borrow educational ideals and practices, es-

pecially American ideals and practices. China must build up an indigenous system of public education, a system based on Chinese traditions and culture. If, however, China is to borrow from abroad, it is suggested that "the cultural conditions of Europe are more suitable than American conditions for adaptation to Chinese requirements."

The report as a whole constitutes a severe indictment of American influence on education in China. Such is especially true with respect to American influence on secondary education, on the training of teachers, and on higher education. Incidentally, the report reveals most clearly the many divergent points of view entertained by European and American educators. The following passage quoted from the report is devoted to a discussion of the general problems of European and American influence on Chinese education.

The chief danger lies in the purely formal imitation of the methods and substance of foreign civilizations. A notable characteristic of contemporary China is the cultivation by a group of the specific tendencies of some foreign culture, whether it come from America, Germany, France, or some other nation. The influence of America is by far the most important. A considerable number of young Chinese intellectuals imitate the outward forms of American life without appearing to realize that Americanism springs from conditions that are peculiar to America, entirely different from those that prevail in China. At the same time it is obvious that the modernization of Chinese life cannot be effected independently of foreign models. This is why the new generation of intellectuals in China has been striving ever since the Revolution to remodel the Chinese educational system in accordance with certain imported ideals. The old Chinese traditions are rightly considered out of date. Most of the springs of China's high civilization have run dry. At the same time one cannot but deprecate the tendency to misunderstand and underestimate their educational value. It is in its literature, whether it be philosophical, historical, or poetical, that the spirit of a nation is expressed. To replace these traditions by the products of a foreign civilization would be to disregard the spontaneous relation between the mentality of a people and its cultural manifestation. It is true that China cannot be modernized without the exploitation of foreign civilizations, but the danger of merely mechanical imitation cannot be overstressed. And with the tendency to copy from one model, and one model only, the risk of imitation pure and simple is increased. The autonomy of modernistic development in China requires a comparative study of all foreign civilizations, rather than the adoption of one to the exclusion of all others; for it must not be the aim of the development to Americanize or Europeanize China, but to modernize China's own national and historical individuality. National intelligence, the natural link be-

tween any people and the outer world, tends at all times and in all places to adopt those elements of a foreign civilization that conform to its own needs, which are frequently found to be at variance with the exigencies of the masses. For the masses adhere more closely to their national traditions than the traveled intellectuals alive to the grandeur and frequently won over by the charm of a foreign civilization.

Thus the problem of foreign civilizations and how they can best be turned to account for the modernization of China must present itself, not as the more or less extensive imitation of Europe and America by the upper classes, but as the nationalization of all foreign influences in the interests of the whole of China and in conformity with the Chinese mentality.

In order to develop these theses, it is necessary to lay particular stress on the remarkable, not to say alarming, consequences of the excessive influence of the American model on Chinese education.

We do not propose to enter here into the details of the question, although these fundamental considerations must necessarily constitute the basis for any opinion that may be expressed. We will merely recall the American influence on the organization of secondary studies (subdivision into juniors and seniors); on the adoption of the "credits" system; and on the great partiality for written reports and statistics. We would also call attention to the fundamental considerations given in the chapter on the training of teachers, where we spoke of "education" as a special branch of teaching. Reference may also be made to our explanations contained in the chapter on higher education. These are all specific points. At bottom, we always find the American conception of education, a conception differing from that found in the countries of Europe. The officials responsible for public education in China simply identified American education and modern educational system. The old Chinese system of education seemed to them not only obsolete and in great need of reform, but also of a nature to be condemned. Without any transition, therefore, the teaching programs and methods of the United States were made to supersede the centuries-old wisdom and learning of China. There are extremists who would like to see China Americanized. In view of this, we consider it indispensable to thrash the question out more thoroughly. . . .

The object of these remarks is solely to warn Chinese educators against superficial Americanization. Let them rather borrow that spirit of originality with which Americans have succeeded in adapting the culture of Europe to American conditions. The Chinese might, in the same way, adapt the cultural resources of Europe and America to the conditions which are specifically Chinese. The four members of the mission, representing four different springs of European culture, came to the conclusion that the cultural conditions of Europe are more suitable than American conditions for adaptation to Chinese requirements, because, precisely, American civilization has developed *in spite of* a total absence of local traditions, whereas European, like Chinese civilization, must always take count of local traditions dating back thousands of years. There should be no misunder-

standing here; we do not wish to see European educational methods substituted for those imported from America. We merely wish to emphasize our belief that no form of civilization which has developed in another land, and in different conditions, can become the cultural tradition of the China that is now entering upon an era of reform. New China must mobilize its forces, and, from its own history, from its own literature, from all that is truly indigenous, extract the materials for a new civilization that will be neither American nor European but Chinese.

Both America and China have placed a good deal of stress on the scientific study of education and the professional training of teachers. The disastrous consequences of such a policy are described as follows:

In European countries of high cultural standard, particular importance is attached to pedagogy in the training of teachers and to the special subject chosen in the preparation of secondary-school teachers. In the United States, as a result of the legitimate conclusion reached that educational science is of paramount importance, education is now regarded as a distinct subject, a science in fact, which embodies all the relevant sciences such as psychology, sociology, method, didactics, school management, hygiene, etc. An ever increasing number of educators are constantly being released by the universities, that is to say, secondary-school teachers familiar with all the subjects covered by the science of education and who have not specialized in one or other of the subjects comprised in the program of studies. Without exaggeration it has been said that many of these men "know how to teach what they do not know themselves." This is not said jokingly; it constitutes the entire problem of teacher training. Science with regard to the child has rapidly advanced as a result of the consideration given to the different aspects of pedagogy, but the very education of children itself has thereby been jeopardized. Under present circumstances, to combine the study of pedagogy in such detailed form, including experimental psychology and school administration, with the intensive scientific studies that must be pursued by a secondary-school teacher in the matter of natural sciences or philological sciences, is to undertake a task which is beyond human possibility or which is at least beyond the resources which may be drawn upon in practice during the few years spent in study. The recognition of this fact has, in the majority of European countries, led to a considerable retrogression of the importance attached to pedagogy in the training of secondary-school teachers. It is only after great hesitation that many European universities have opened their doors to pedagogy with its numerous subdivisions that are continually increasing. America has taken up an entirely different attitude and has very appreciably developed the science of teaching. The representatives of each of the divisional subjects have wished to state their personal views on the question of teacher training; there was a general conflict on the matter of "credits," and

finally there emerged such a multiplicity of subjects in pedagogy that there was no longer any room left for the natural and the philological sciences, that is, for the most important subjects in the system of education. The result, in spite of all efforts to perfect pedagogical technique, has been a general lowering of the scientific standard of secondary-school pupils, and such a state of affairs is most regrettable.

This difference will be shown all the more clearly if we compare type institutions such as the *École normale supérieure* in France or the *Oberlehrerbildung* of Germany, on the one hand, with the methods of, and the results obtained by, the famous Teachers College of Columbia University, New York, or the Normal University of Peiping, on the other. China has adopted American educational science with as much enthusiasm as that shown in welcoming anything new and anything American, and in the system of public education in China, which led to such serious consequences for American culture itself.

THE UNIVERSITY OF CHICAGO DINNER

The University of Chicago Dinner, held annually during the week of the meeting of the Department of Superintendence of the National Education Association, will occur at the Women's Club of Minneapolis at six o'clock on Wednesday evening, March 1, 1933. Charles H. Judd, Dean of the School of Education, University of Chicago, will serve as toastmaster. Lotus D. Coffman, President of the University of Minnesota, and others will speak. Some examples of the talking motion picture films which are being developed at the University of Chicago as a part of its new educational plan will be presented. Robert Maynard Hutchins, President of the University of Chicago, will also be a speaker.

Tickets at the rate of \$2.00 each may be secured from William S. Gray, School of Education, University of Chicago, or from Miss Marion Weller, Farm Campus, University of Minnesota, Minneapolis, Minnesota.

RELATION OF PUBLIC-SCHOOL SUPPORT TO SUBSEQUENT PER CAPITA WEALTH OF STATES. II

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INFLUENCE OF EXTRANEOUS FACTORS

Evidence of a positive association between financial support of public schools and subsequent changes in per capita wealth of the states was presented in the preceding article. It was shown that, in those states in which the percentage of wealth expended for public schools in 1890, 1900, and 1912 was the greatest, the increase in the average per capita wealth during following periods was larger than the corresponding increase in states which had provided less adequately for their schools. Although no significant positive connection was discovered between school support in a particular period and changes in wealth which had occurred during periods preceding the time of the expenditure, the proportion of wealth expended for public education in the various states during the years used in the study appeared to have a significant positive relation to changes in average per capita wealth during subsequent periods.

It is not safe, however, merely because a positive relation was found, to conclude that the work of the public schools was an important influence in the increase of wealth. There is a possibility that some other force or condition may have played a leading part in producing the increase of wealth and that variation among the states in the financial support given the public schools may have been only an incidental phase of the complex modern civilization which resulted in the economic development of our country. Consideration will therefore be given to several factors which might be expected to have some bearing on the general problem in order that it may be determined whether these factors were directly or indirectly involved in producing the positive relation found between financial

support of public schools and subsequent changes in per capita wealth of the states.

In this, as in the preceding article, most of the data were taken from the *Statistical Abstract of the United States*, published by the United States Department of Commerce, and from reports of the National Industrial Conference Board.¹ The data concerning the proportions of colored and of foreign-born persons in the population and concerning the stability of residence of the population were taken from reports of the United States Bureau of the Census. The increase in the value of the mineral products of the states from 1912 to 1930 was computed from tables presented in *Mineral Resources of the United States*, published by the United States Geological Survey, Department of the Interior, for 1912, and by the Bureau of Mines, United States Department of Commerce, for 1930.

It is obvious that changes in the population of the states have an important bearing on average per capita wealth. The per capita wealth reported in the *Statistical Abstract* and in reports of the National Industrial Conference Board is obtained by dividing the total value of the tangible property within the boundaries of each state by the total population. If the population increases more rapidly than the total wealth, the average per capita wealth of the state falls. Declining population in a state, on the other hand, may lead to a marked advance in per capita wealth even though the total wealth is not increasing as rapidly as is the total in other states.

It is desirable, therefore, to determine the relation which exists independently of population growth between financial support of public schools and subsequent per capita wealth. This relation can be determined by the use of partial correlation. Ordinary, or zero-order, correlation is a convenient means of showing the amount or degree of relation existing between two series of measures without any consideration of the influence of outside factors. Partial correlation of the first order shows the amount of relation which exists between two variables (series of measures or indices) independently of the influence of some third variable. Since the influence of the third variable is eliminated, it is said to be "held constant." The partial

¹ "National Wealth and National Income," *Conference Board Bulletin*, No. 62 (February 20, 1932), p. 496. New York: National Industrial Conference Board, Inc.

correlation between school support and subsequent per capita wealth, with population changes in the states held constant, is essentially the same as the ordinary correlation would be if population growth were uniform among the states.¹

Application of the formula for partial correlation to the zero-order coefficients gives the results shown in Table VI. It will be ob-

TABLE VI
INTERCORRELATIONS OF SCHOOL SUPPORT IN 1890 WITH CHANGES IN PER
CAPITA WEALTH AND POPULATION OF STATES FROM 1890 TO 1900

FACTOR CORRELATED	CORRELATION WITH—		
	Percentage of Increase in Population from 1890 to 1900	Change in per Capita Wealth from 1890 to 1900	
		Absolute or Dollar Change	Percentage of Change
Percentage of increase in population from 1890 to 1900		— .20	— .14
School support in 1890	— .31	.50	.57
Partial correlation with school support in 1890, population being held constant . . . . .		.47	.56

served that the correlations are reduced slightly by eliminating the influence of population changes, from .50 to .47 in relation to absolute change in per capita wealth and from .57 to .56 in relation to percentage of change—differences so slight as to be considered insignificant. Computed in a like manner from coefficients not shown in the table, with population held constant, the partial correlation of school support in 1900 with the absolute or dollar change in per capita wealth during 1900-1912 is .54, and the partial correlation between school support in 1900 and the percentage of change in per capita wealth during 1900-1912 is .25, the zero-order coefficients

¹ The formula used in computing the partial correlation with three variables is as follows:

$$r_{12.3} = \frac{r_{12} - r_{13} \cdot r_{23}}{\sqrt{(1 - r_{13}^2)(1 - r_{23}^2)}}$$

This formula is found in Karl J. Holzinger, *Statistical Methods for Students in Education*, p. 284. Boston: Ginn & Co., 1928. Application of the Blakeman test for linearity showed all the regressions to be sufficiently linear to warrant use of the method of partial correlation.

being .53 and .31, respectively. The partial correlations of school support in 1912 with changes in wealth during 1912-22 are .30 and .30, the zero-order correlations in this case being .32 and .27. When the entire period 1912-30 is used instead of the period 1912-22, the ordinary correlation of school support in 1912 with subsequent per capita wealth is .33; of school support with changes in population, .14; and of changes in per capita wealth with changes in population, -.36. When population is held constant, the partial correlation between financial support of public schools in 1912 and changes in per capita wealth from 1912-30 is .41. Apparently, the positive relation between school support and subsequent wealth has not been caused by the growth of population, since in these several computations the correlations remain essentially the same when the effect of population is eliminated.

The relation between school support in 1912 and the percentage of change in per capita wealth of the states from 1912 to 1930 has been selected for more detailed study in connection with population and various other factors or conditions which might be suspected of having some influence. For convenience in reporting relationships, the factors will be designated by the following numbers:

1. School support in terms of the percentage of wealth expended for public schools in 1912.
2. The percentage of change in per capita wealth of the states from 1912 to 1930.
3. The per capita wealth of the states in 1912.
4. The percentage of change in population of the states from 1912 to 1930.
5. The mean annual temperature.
6. The proportion of the population in private and parochial schools.
7. The proportion of colored persons in the population.
8. The proportion of foreign-born persons in the population.
9. The stability of state residence of the population.
10. The increase in the value of the mineral products of the states from 1912 to 1930.

The intercorrelations of school support in 1912, the percentage of change in per capita wealth of the states from 1912 to 1930, the per capita wealth in 1912, and the percentage of change in population from 1912 to 1930 are presented in Table VII. There is a significant negative correlation (-.56) between the per capita wealth of the

states in 1912 and the percentage of change in per capita wealth during the following period of eighteen years. It is apparent that states with high averages of per capita wealth at the beginning of the period were handicapped with respect to the likelihood of subsequent increases. On the other hand, states with low per capita wealth at the beginning of the period had in general a greater probability of advance than the average. This result indicates at least a slight tendency for the per capita wealth of individual states to work toward the average of the country. Changes in the population of the

TABLE VII
INTERCORRELATIONS OF SCHOOL SUPPORT AND PER CAPITA WEALTH
IN 1912 WITH SUBSEQUENT CHANGES IN PER CAPITA
WEALTH AND POPULATION OF STATES

Factor Correlated	Percentage of Change in per Capita Wealth 1912-30	Per Capita Wealth in 1912	Percentage of Change in Population 1912-30
School support in 1912.....	33	— .06	.14
Percentage of change in per capita wealth 1912-30.....		— .56	— .36
Per capita wealth in 1912.....			.16

states also have a significant negative correlation with changes in per capita wealth (— .36).

On account of their obvious negative association with subsequent changes in per capita wealth, it is desirable when the general relation of school support to subsequent per capita wealth is being determined, to eliminate the two factors of (1) the influence of per capita wealth at the beginning of a period and (2) changes in population. Each of these factors may be held constant separately by use of the formula for partial correlation with three variables. If both are to be held constant, that is, if the influence of both is to be eliminated at the same time, it is necessary to calculate the partial correlation of the second order with four variables.¹

¹ The formula for partial correlation with four variables is as follows:

$$r_{12.34} = \frac{r_{12}(1 - r_{34}^2) - r_{13}r_{23} - r_{14}r_{24} + r_{34}(r_{13}r_{24} + r_{14}r_{23})}{\sqrt{(1 - r_{13}^2 - r_{14}^2 - r_{34}^2 + 2r_{13}r_{14}r_{34})(1 - r_{23}^2 - r_{24}^2 - r_{34}^2 + 2r_{23}r_{24}r_{34})}}$$

This formula is found in Karl J. Holzinger, *op. cit.*, p. 356.

Application of the two formulas to the coefficients of the zero order presented in Table VII results in the following partial correlations:

$$r_{12,3} = .36$$

$$r_{12,4} = .41$$

$$r_{12,34} = .44$$

Elimination of the influence of per capita wealth in 1912 gives a correlation of .36 between financial support of schools in 1912 and changes in per capita wealth during the following eighteen years. Elimination of the influence of population changes gives a correlation of .41, as previously noted. Holding both these factors constant, however, results in a correlation slightly higher, .44. The results indicate that the effect of these two factors was to obscure, rather than to contribute toward, the genuine positive relation which apparently exists between school support and subsequent changes in per capita wealth.

Differences in average temperatures among the various states might be presumed to have some bearing on school support and its relation to per capita wealth. In states where the average temperatures are high, less expense is necessary for the construction and operation of school plants than is required in states with low temperatures. Since complete records of temperature are officially kept only for certain points in the states, it is necessary to use the average of these records for each state as representative of the mean annual temperature of that state. The zero-order correlation of mean temperature by states with financial support of schools in 1912 is $-.25$, and the correlation of temperature with percentage of change in per capita wealth during the period 1912-30 is $-.15$. The partial correlation between school support in 1912 and subsequent changes in per capita wealth, with temperature held constant, is .31. When both temperature and population change are held constant, the partial correlation between school support in 1912 and subsequent changes in per capita wealth is .43. Average temperature in the different states, then, is apparently not an important factor in connection with the positive relation of school support to subsequent wealth.

The proportion of the population of the various states attending

private and parochial schools might be presumed to have some influence on the relation of school support to change in wealth. In states having a relatively large proportion of pupils in private and parochial schools, the proportion of pupils in the public schools and, consequently, expenditures for public education would be expected to be somewhat lower than in states having fewer pupils in private and parochial schools. The tendency in this direction, however, appears to be of no significance, as the negative correlation between the proportion of the population in private and parochial schools in 1912 and the percentage of wealth expended for public schools in that year is only $-.08$. The proportion of the population in private and parochial schools of the different states has a correlation of only $.02$ with subsequent per capita wealth. It is evident, therefore, that this factor has no important bearing on the positive relation of financial support of public schools to subsequent increase in per capita wealth, as the partial correlation is unchanged ($.33$) when the proportion of the population in private and parochial schools is held constant. The fact that the proportion of the population in private and parochial schools has practically no correlation with increase in per capita wealth should not be interpreted to indicate a lack of economic value in their work. Even in the states where they have the largest proportions of pupils, private and parochial schools serve only a relatively small part of the total population. Consequently, the value of their work should not be expected to be so easily discernible as that of the public schools. The low correlation noted may result from other more important factors overshadowing the real relation.

The proportions of colored and of foreign-born persons in the population are two factors which require consideration. The correlations of these two factors with school support and changes in per capita wealth are shown in Table VIII. The partial correlations indicate that elimination of the influence of these factors leads to an increase in the positive relation of school support to subsequent wealth. The partial correlations are as follows:

$$r_{12,7} = .43$$

$$r_{12,8} = .39$$

$$r_{12,78} = .43$$

Although the ordinary correlation of school support in 1912 with subsequent percentage of change in per capita wealth is only .33, the correlation becomes .43 when the proportion of the population which is colored is held constant, .39 when the proportion of the population which is foreign born is held constant, and .43 when the effect of both these factors is eliminated.

In the first article it was pointed out that migration of persons from state to state is probably one important influence preventing the effect of school support on subsequent per capita wealth from extending over a long period. As years pass, a smaller and smaller proportion of those educated in any state still remain as residents of

TABLE VIII
INTERCORRELATIONS OF PROPORTIONS OF COLORED AND FOREIGN-BORN
PERSONS IN THE POPULATION WITH SCHOOL SUPPORT AND SUBSE-
QUENT CHANGES IN PER CAPITA WEALTH OF STATES

Factor Correlated	Percentage of Change in per Capita Wealth 1912-30	Proportion of Colored Persons in the Population	Proportion of Foreign born Persons in the Population
School support in 1912.....	33	-.39	.25
Percentage of change in per capita wealth 1912-30.....	.....	.16	-.18
Proportion of colored persons in the population.....	.....	.....	-.69

the state. The method of partial correlation does not furnish a means of eliminating entirely the influence of migration. It is not sufficient to determine the relation between school support and subsequent wealth with migration held constant, since any amount of migration, even though uniform among the states, ultimately lessens the measurable effects of education on the wealth of the various states. However, partial correlation permits of the determination of the relation which exists independently of differences in amounts of migration. The partial correlation between school support in 1912 and subsequent per capita wealth, with the proportion of the population in 1920 born within the state of residence held constant, is .44.

Increase in the value of mineral products from 1912 to 1930 might be supposed to exert an important influence on later per capita

wealth. The value of mineral products in Texas, for example, was nearly twenty times as great in 1930 as their value in 1912. On the other hand, in a few states the value of the mineral products decreased during the same period. The partial correlations show, however, that this factor has no important effect on the general relation between school support and subsequent wealth. It will be recalled that the zero-order correlation between these two factors is .33. With increase in mineral products held constant, the partial correlation is .30. With both increase in mineral products and growth in population held constant, the partial correlation is .38.

Examination of the influence of these various factors fails to disclose any which seem to have an appreciable effect in helping to produce the positive relation between school support and subsequent changes in per capita wealth. In fact, elimination of the influence of the other factors serves in most cases to increase the positive correlation, as is shown in the summary of correlations given in Table IX.

There are two limitations which should be kept in mind in interpreting the results of this study. The first is that only one index of school support has been used, namely, the percentage of wealth expended annually for public schools, the reason being that this measure appeared to be the only satisfactory index available over a long period. Percentage of income expended, per capita expenditures in terms of cost of living, or one of these two in combination with per capita expenditures and percentage of wealth expended might constitute a better index of school support than the one employed. It is quite possible, therefore, that some other index of school support might show a higher relation to subsequent wealth than does the percentage of wealth expended annually. The second limitation is that the expenditures of a single year may not be a sufficiently reliable index of school support in the various states. For example, if an extensive building program happened to be in progress in some state in 1912, the expenditures for public schools would have been abnormally high in that state. The reliability of the index of school support would probably be increased somewhat by taking the average expenditures for a period of three or more years. Any increase in the reliability of the index should lead to an increase in the correla-

tions because low reliability in an index tends generally to hold down the amount of correlation with a related factor.

The fact that this study has revealed no outside influence which furnishes an explanation of the positive correlation found between

TABLE IX

PARTIAL CORRELATIONS OF SCHOOL SUPPORT IN 1912 WITH SUBSEQUENT
CHANGES IN PER CAPITA WEALTH OF STATES WHEN VARIOUS
OTHER FACTORS ARE HELD CONSTANT

Factors Held Constant	Correlation
Zero-order correlation:	
None . . . . .	.33
Partial correlations with one factor held constant:	
Per capita wealth in 1912 . . . . .	.36
Percentage of change in population from 1912 to 1930 . . . . .	.41
Mean annual temperature . . . . .	.31
Proportion of population in private and parochial schools . . . . .	.33
Proportion of colored persons in the population . . . . .	.43
Proportion of foreign-born persons in the population . . . . .	.39
Stability of state residence of the population . . . . .	.44
Increase in value of mineral products . . . . .	.30
Partial correlations with two factors held constant:	
Per capita wealth in 1912 and change in population of states from 1912 to 1930 . . . . .	.44
Per capita wealth in 1912 and stability of state residence of the population . . . . .	.31
Change in population and mean annual temperature . . . . .	.43
Proportions of colored and of foreign-born persons in the population . . . . .	.43
Proportion of colored persons in the population and change in population . . . . .	.55
Proportion of foreign-born persons in the population and change in population . . . . .	.45
Mineral products and change in population . . . . .	.38

school support and subsequent per capita wealth does not, of course, preclude the possibility that such a factor may be found in the course of further investigation. Until and unless some other factor is discovered which accounts for the positive relation shown to exist, however, it is reasonable to conclude that financial support of public schools has had a causal bearing on subsequent increase or decrease in per capita wealth of the states.

PURPOSES IN THE SELECTION AND ARRANGEMENT OF MATERIAL IN SUPPLEMENTARY READERS

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The purpose of this article is to report a study of the basis of the selection and arrangement of subject matter in school readers. An examination was made of the introductory material of the sixty-five supplementary school readers which were used in the public schools of Texas in 1930-31. These were divided into two lists of almost equal numbers: those whose term of adoption had just been completed (List I, 33 books) and those newly adopted (List II, 32 books). The introductory material consists mainly in prefaces taken from the readers. In the case of readers having no prefaces the material was taken from teachers' manuals or publishers' leaflets. This material was analyzed to ascertain the purposes of the writers or publishers in presenting the content of the readers. The purposes were then classified and arranged in tabular form. This table shows the purposes listed in each book surveyed. The purposes are outlined, and in spaces opposite the outline the books including each purpose are checked.¹

A great many statements expressing different purposes directly concerning pupil objectives were found and a still greater number and variety of statements expressing purposes concerning means of attaining pupil objectives by the selection of special types of content, by methods of presenting material, and by physical features of the books. In many cases the statements of purpose were indefinite and difficult to classify, for example, "to broaden the child's outlook on life" and "to inspire to noble action." The classification used in this study is, of course, arbitrary and somewhat subjective. It was found possible to classify the purposes in seven main groups. These groups and the main subgroups, with the total number of statements

¹ This extended table is not reproduced in this article but may be found in a Master's thesis by the writer on file in the library of the University of Texas.

classified under each head, are shown in Table I. The three right-hand columns give the number of statements under each group of purposes in Lists I and II and in the combined list. It will be recalled that the largest possible totals are thirty-three, thirty-two, and sixty-five, respectively.

The table reveals that purposes expressed in terms of children's interests occur more frequently than any other. Makers of textbooks evidently wish to impress those who are to select readers that they have considered the interest value of the material. While their primary concern seems to be the adaptation of material to interests already existing, about two in five of the readers surveyed mention also the stimulation of new interests. A more detailed analysis based on the larger table not reproduced here shows that, among the methods suggested for securing interest, adaptation of the books by various characteristics of presentation is most emphasized (47 books). This adaptation refers to such characteristics as vivid description, story form, charming characterization, avoidance of didacticism, and omission of material not of direct interest to the child. There are many recommendations dealing with the selection of various kinds of content for the interest value (39 books), such as *easy material* (30 books) and *new or fresh material* (20 books). Among specific interests or responses (38 books), reference is made to love of that which is joyful, delightful, pleasurable, or entertaining (18 books); interest in animals and interests of certain ages (8 books each); interest in dialogue and conversation, love of variety, and love of rhythm (7 books each); and others of similar nature.

Purposes expressed in terms of the material itself (not considered from the standpoint of interest) are shown by Table I to be highly emphasized. The general tendency is definitely to include or to omit certain types or qualities of material and to consider the material presented in terms of specific teaching purposes. The table not reproduced here shows that valuable or worth-while material is most frequently indicated (20 books), unduplicated material is second (15 books), and material of literary merit is third (7 books). The type of material most often mentioned in connection with serving specific teaching purposes is *graded material* (44 books). Study helps for pupils are emphasized in 24 books, and 20 books state the desire to present a definite supplementary point of view.

The purposes expressed in terms of the development of powers and abilities in children, as shown in Table I, are specifically directed toward those powers related to reading and study, except for some general powers of appreciation—appreciation of nature, for example.

TABLE I
CLASSIFICATION OF PURPOSES MENTIONED IN PREFACES OF
SIXTY-FIVE SUPPLEMENTARY READERS AND NUMBER OF
BOOKS IN WHICH EACH IS MENTIONED

PURPOSE	FREQUENCY OF MENTION		
	List I	List II	Total
1. Purposes expressed in terms of children's interests. . .	32	31	63
To adapt the books to interests already existing. . . .	32	31	63
To stimulate development of new interests.	14	12	26
2. Purposes expressed in terms of material itself (not considered from the standpoint of interest).	31	31	62
To provide material described in terms of specific teaching purposes.	31	28	59
To provide (or omit) material described in terms of general characteristics of type or quality.	29	26	55
3. Purposes expressed in terms of the development of powers and abilities in children.	28	26	54
To develop ability in different types of reading. . . .	16	20	36
To develop various elements of reading skills	17	19	36
To develop miscellaneous powers and abilities related to reading and study.	21	13	34
To develop powers of appreciation.	9	5	14
To develop mental processes on which reading skills depend.	1	3	4
4. Purposes expressed in terms of the development of desirable characteristics in children.	30	21	51
To develop desirable characteristics specifically related to reading and study	22	10	32
To develop desirable social characteristics	12	13	25
To develop desirable general characteristics.	3	12	15
5. Purposes expressed in terms of giving information, vicarious experience, and stimulation for activities	20	18	38
To provide information and vicarious experience	20	11	31
To stimulate activities.	6	13	19
6. Purposes expressed in terms of physical features of the books and arrangement of material (not considered in terms of interest).	22	12	34
To provide illustrations described in terms of specific types, qualities, or arrangement	14	7	21
To provide for facilitation of teaching and learning processes	13	5	18
To provide for textbook hygiene	4	3	7
To provide for standard physical makeup (Dearborn standard)	0	2	2
7. Purposes expressed in terms of desire to follow scientific studies and suggestions of experienced educators	14	12	26
To follow scientific studies in field of reading	14	9	23
To follow suggestions of experienced educators	0	5	5

Among references to powers and abilities related to reading and study, about equal mention is given to ability in different types of reading and to miscellaneous powers and abilities, the latter including designations such as powers of thought production, constructive thinking, ability to do independent work, and ability to correlate reading with life. The longer table shows that emphasis on ability in silent reading (26 books) greatly overshadows that on ability in oral reading (8 books). Little mention is made of such specialized types of reading ability as recreational reading (7 books), cursory reading (5 books), reference reading (3 books), and sight reading (3 books). Definite elements of reading skills are specified as objectives in many instances (36 books). The longer table indicates that thought-getting or comprehension (30 books) is stressed as an objective in more books than any other element. Appropriate rate of speed in silent reading is sometimes stressed (14 books), and vocabulary development is third in frequency (11 books). In four books the writers are still more explicit and state purposes in terms of the development of mental processes on which reading skills depend, such as reasoning, imagery, and perception.

In the purposes expressed in terms of the development of desirable characteristics in children, the primary emphasis in modern readers is, according to this survey, toward those characteristics specifically related to reading and study. The development of desirable social characteristics is, however, given considerable attention. General characteristics, such as courage and initiative, are mentioned only a little more than half as frequently as are social characteristics, such as fair play, unselfishness, and tolerance.

Although fifth in rank, purposes expressed in terms of giving information, vicarious experience, and stimulation for activities are stated in almost three-fifths of the books. The purpose to stimulate activities appears about a third less frequently than the purpose to provide information and vicarious experience. The longer table indicates that "information" is often used as an indefinite or general term (13 books), for instance, "information needed for normal mental growth." Typical among the few definitely named activities are silent-reading activities, dramatization, and investigation or research.

It has evidently become so customary for modern books to be constructed according to definite standards that the physical make-up is not always mentioned in the prefaces. Inclusive statements of the purpose to provide for standard physical makeup appear only twice. The casual and infrequent statement of this aim and the books themselves substantiate the opinion that modern textbook-makers observe definite standards as a matter of course. Textbook hygiene is mentioned a few times. This purpose is usually stated in general terms or with reference to the conservation of eyesight. The provision for facilitation of teaching and learning processes is of some concern. Purposes in this group refer to even margins and regular paragraphing for encouraging regular eye-movements, shorter lines in the first reader, accessibility of material for reference and problem-solving, and the like. Statements of purposes dealing with the qualities or arrangement of illustrations are most frequent in the group dealing with physical characteristics. The objective most often repeated is to provide illustrations interpretative of the reading material. Other typical statements shown in the longer table are to provide illustrations which are a background for the stories (4 books) and which give opportunity for language development (5 books).

The apparent neglect of such an obviously important purpose as the desire to follow scientific studies and suggestions of experienced educators may be explained by classing it with those purposes which are so generally followed that attention need no longer be directed to them. In the longer table purposes directed toward scientific studies of vocabulary selection are of the greatest frequency (8 books). These usually refer to Gates's or Thorndike's vocabulary list.¹ The Twenty-fourth Yearbook of the National Society for the Study of Education² has exerted some influence in directing writers to scientific studies (5 books). Specific types of studies given a few references are those concerning the selection of material by chil-

¹ a) Arthur I. Gates, *Reading Vocabulary for the Primary Grades*. New York: Teachers College, Columbia University, 1926. Pp. 24.

b) Edward L. Thorndike, *The Teacher's Word Book*. New York: Teachers College, Columbia University, 1921. Pp. vi+134.

² *Report of the National Committee on Reading*. Twenty-fourth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1925. Pp. x+356.

dren's interests (5 books) and those in the field of silent reading (4 books). Suggestions of experienced educators are mentioned in only five books.

CONCLUSION

It appears that the two main trends in the selection and arrangement of material in school readers are (1) a consideration of children's interests and (2) a consideration of the value of the material to children. The results of this study show these two factors to be of almost equal importance. The expressed purposes next in frequency are (3) the development of powers and abilities in children and (4) the development of desirable characteristics in children. These two trends are also of almost equal frequency and, while considerably less frequent than the first two trends named, the third and the fourth are so often mentioned and rank so far above other trends as to deserve specific recognition.

With respect to the low rank of the group of purposes expressed in terms of giving information, vicarious experience, and stimulation for activities, comparison of the data for Lists I and II indicates that the providing of information and vicarious experience is a decreasing tendency, while the desire to stimulate activities, although not of great frequency at present, is growing.

Since statements concerning special physical features of the books and statements concerning scientific studies and suggestions of experienced educators are found less frequently than might be expected, it is possible that these purposes are so well known and so generally accepted that their observance is not usually shown by comment in the introductory material.

In the more detailed study of purposes, the desires to provide graded material, to develop thought-getting power as an element of reading skill, to develop silent reading as the most important type of reading, and to include directing and study helps for pupils take high rank.

The purposes expressed in the earlier and later series of books are in general very similar. There is a tendency to decrease the emphasis on the development of characteristics related to reading, on information, and on physical features of the books and to increase the em-

phasis on the stimulation of activities, on providing new and unduplicated material, and on the individualization of instruction.

In the primary grades types of material and physical makeup suitable to that level are emphasized, while in the upper grades the emphasis shifts to information, appreciation, activities, and conduct.

Since this study indicates that it is becoming the custom to include only brief prefaces or to omit prefaces entirely, it is apparent that, in the future, studies concerning material in school readers will necessarily be based largely on a consideration of the material itself or on a study of teachers' manuals. It may be well to keep this point in mind when considering the results of this investigation, although the writer believes the trend is not yet of sufficient importance to affect seriously the conclusions indicated.

THE LAW GOVERNING THE DISMISSAL OF TEACHERS. III

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RIGHT OF TEACHER TO NOTICE AND HEARING

Where the statutes vest in the employing agency the right to dismiss teachers at discretion and without cause, it is not necessary that a teacher be given notice of the charges against him and an opportunity to explain his conduct.¹ Where, on the other hand, the statutes require that a teacher be given notice and an opportunity to be heard in his defense, the procedure established by statute must be closely followed. If a teacher is dismissed without a hearing under such circumstances, the board will be estopped from pleading the grounds for dismissal, whatever these may be, in an action by the teacher for breach of contract. In other words, the grounds for dismissal cannot be shown unless they have been ascertained and acted on in the manner prescribed by statute.² In case the statutes provide that teachers can be dismissed for cause only, a teacher, according to the great weight of authority, cannot be legally dismissed without having been given notice of the charges preferred and an opportunity to be heard in his defense.³ As a rule, it is not necessary that the statutes expressly provide for notice and hearing; it is sufficient if they provide that a teacher be dismissed for cause only. Thus, it was

¹ *Gillan v. Board of Regents*, 88 Wis. 7, 58 N.W. 1042, 24 L.R.A. 336, *The Queen v. Governors of Darlington School*, 6 Q.B. (Adolphus and Ellis, N S) 682.

² *School District No. 26 v. McComb*, 18 Colo. 240, 32 Pac. 424; *School District No. 1 v. Parker*, 260 Pac. (Colo.) 521.

³ *Trustees of State Normal School v. Cooper*, 150 Pa. 78, 24 Atl. 348; *Corrigan v. School Committee*, 250 Mass. 334, 145 N.E. 530; *Clark v. Wild Rose Special School District No. 90*, 47 N.D. 297, 182 N.W. 307; *Taylor v. School District No. 1*, 15 Ariz. 262, 138 Pac. 13; *Morley v. Power*, 5 Lea (73 Tenn.) 691, *School District No. 2 v. Shuck*, 49 Colo. 526, 113 Pac. 511; *School District No. 3 v. Hale*, 15 Colo. 367, 25 Pac. 308; *School District No. 25 v. Youberg*, 77 Colo. 202, 235 Pac. 351; *Kellison v. School District No. 1*, 20 Mont. 153, 50 Pac. 421; *State v. Wunderlich*, 144 Minn. 368, 175 N.W. 677.

said by the Supreme Judicial Court of Massachusetts in a recent case:¹

Where the power is given to remove "for cause," removal is not authorized without notice and hearing even though the statute does not so provide in terms. . . . The term removal "for cause" means removal "for cause sufficient in law." That can only be determined after an opportunity to be heard and a finding so that the sufficiency of the cause may be determined in court.

In a case which came before the Supreme Court of Pennsylvania,² the principal of a state normal school was dismissed without notice or hearing on the ground of immoral conduct. In holding that the dismissal was illegal, the court said:

When he asked for a reason for such treatment, he was pointed to his conviction upon four distinct charges of immoral conduct spread upon the minutes of the board of trustees. When he denied the regularity of such action, a court of equity was appealed to by the trustees to close his mouth and tie his hands. He comes into this court by appeal, and asks whether he may be lawfully tried, convicted, and sentenced without so much as notice that he is accused?

A good character is a necessary part of the equipment of a teacher. Take this away, or blacken it, and the doors of professional employment are practically closed against him. Before this is done there should be at least a hearing, at which the accused may show that the things alleged are not true, or if true are susceptible of an explanation consistent with good morals and his own professional fidelity. We think it is plain, too plain for serious discussion, that the action of the trustees was irregular and unjust to the appellant.

Similarly, in a North Dakota case³ a teacher was dismissed for neglect of duty without notice and opportunity to be heard. The statutes authorized the dismissal of teachers for cause but made no mention of the right of a teacher to a hearing. Nevertheless, the court held that notice and a hearing were essential:

We are of the opinion that the statute authorizes removal only for cause as distinguished from removal at the pleasure of the school board, and that the cause must be a real cause affecting the interests of the school. It is elementary that where the power to dismiss an employee of a public corporation is conditioned upon the existence of cause therefor, the employee has a right to know the nature of the charge or charges which it is claimed constitute cause, and the further right to a reasonable opportunity to appear and defend against the charge or charges.

¹ *Corrigan v. School Committee*, 250 Mass 334, 145 N E 530.

² *Trustees of State Normal School v. Cooper*, 150 Pa 78, 24 Atl 348.

³ *Clark v. Wild Rose Special School District No. 90*, 47 N.D. 297, 182 N W. 307.

Some courts hold, however, that a teacher is not entitled to notice and hearing unless such right is expressly conferred by statute.¹ These courts reason that the relation between a school board and a teacher is simply that of employer and employee. An employer, it is said, may dismiss an employee without giving notice of charges or an opportunity to be heard. If the dismissal is without legal cause, the employer is liable in an action for breach of contract. In a case decided by the Supreme Court of Washington,² for example, a statute authorized the dismissal of teachers "for sufficient cause." In holding that no notice or hearing was required, the court said:

A teacher is an employee, and not a public officer. . . . They are employed in this state by contracts for definite periods with the teacher as one party and the board of directors of the school district as the other. In the absence of express legislation we do not think it can be successfully maintained that one party to a contract must sit as a tribunal before exercising its privilege of terminating it.

Of course, if the contract is terminated wrongfully, the district is liable for the damages suffered, but we hold that the use of the words "for sufficient cause" is simply a limitation upon the power to discharge given by the same section. The investigation which the board may see fit to make is within its own discretion. It should, and probably will, where practicable, discuss matters with the teacher before acting.

Although a teacher may be entitled to a hearing, it is not, as a rule, necessary that the board of education adopt the formal procedure of a court of law. All that is required is that the teacher be notified of the charges against him and be given an opportunity to explain or justify his course of action. The board may adopt whatever procedure it sees fit so long as justice be done.³ Failure to take evidence under oath or to keep a record of proceedings is immaterial.⁴ In determining whether a school board had adopted the proper pro-

¹ *State v. Preston*, 120 Wash. 569, 208 Pac. 47; *Foreman v. School District No. 25*, 81 Ore. 587, 159 Pac. 1155; *Ridenour v. Board of Education*, 15 Misc. Rep. 418, 37 N.Y.S. 109, 72 N.Y. St. Rep. 155; *Ewin v. Independent School District No. 8*, 10 Idaho 102, 77 Pac. 222; *Mavey v. Board of Trustees*, 187 Ky. 729, 220 S.W. 732.

² *State v. Preston*, 120 Wash. 569, 208 Pac. 47.

³ *People v. Board of Education*, 3 Hun. (N.Y.) 177, *School District No. 23 v. McCoy*, 30 Kan. 268, 1 Pac. 97, 46 Am. Rep. 92; *School District No. 25 v. Youberg*, 77 Colo. 202, 235 Pac. 351; *Kirkpatrick v. Independent School District of Liberty*, 53 Ia. 585, 5 N.W. 750.

⁴ *School District No. 23 v. McCoy*, 30 Kan. 268, 1 Pac. 97, 46 Am. Rep. 92

cedure in dismissing a teacher for incompetence, a New York court said:

This supervisory power is not necessarily in the nature of a judicial trial of issues of fact. The substantial duty of the board is, to see that injustice has not been done to the teacher by the trustees [ward trustees], and that the removal has not been made upon improper or inadequate grounds. The delicate nature of the duty devolved upon the trustee, to see to it that unfit or incompetent persons are not put or kept in charge of the children who attend the common schools, forbids the idea of a trial with the formality and strictness that belong to courts. It is only necessary to suggest that they must often act upon moral convictions, rather than established facts, and upon evidences of unsuitness, physical, mental, or moral, that would not, in courts, be such proof as would justify a verdict of guilt of specific offenses or immoralities.¹

A teacher, however, has a right to a fair hearing by those who sit in judgment of his ability or conduct.² A member of a school board who is prejudiced against a teacher may be restrained from sitting as a member of the tribunal to hear and determine charges against him. A case decided by the Supreme Court of Washington³ illustrates the application of the rule. The superintendent of schools of Seattle was charged with malfeasance in office, with conduct unbecoming a superintendent of schools, and with disobedience to the rules of the board of directors. One of the members of the board of directors, who was a personal enemy of the superintendent, publicly announced his intention of finding the superintendent guilty no matter what the evidence might be. The Supreme Court issued an injunction restraining this member of the board from sitting at the trial.

The same principle of law is illustrated by other cases. In Massachusetts⁴ a teacher was dismissed as a result of votes cast by two members of the school committee who were actuated by feelings of political resentment and ill will against the teacher, more or less

¹ *People v. Board of Education*, 3 Hun. (N Y.) 177

² *School District No. 23 v. McCoy*, 30 Kan. 268, 1 Pac. 97, 46 Am. Rep. 92; *State v. Board of Education*, 19 Wash. 8, 52 Pac. 317, 40 L. R. A. 317, 67 Am. St. Rep. 706; *Sweeney v. School Committee*, 249 Mass. 525, 144 N. E. 377; *Christensen v. Plummer*, 130 Minn. 440, 153 N. W. 862.

³ *State v. Board of Education*, 19 Wash. 8, 52 Pac. 317, 40 L. R. A. 317, 67 Am. St. Rep. 706.

⁴ *Sweeney v. School Committee*, 249 Mass. 525, 144 N. E. 377.

openly expressed and exhibited. The court issued a writ of mandamus reinstating the teacher in his position. In the state of Washington a statute provided that a teacher who had been dismissed might appeal to the county superintendent of schools to review the action of the school board. Where, however, the superintendent had been the moving force in dismissing a teacher and had prejudged her case, the court held that the appeal was unnecessary. The teacher might carry her case directly to the courts.¹

DAMAGES RECOVERABLE FOR BREACH OF CONTRACT

A teacher who is illegally dismissed should not assume as a matter of course that he can recover the wages accruing for the remainder of his term of employment. The amount due under the contract is *prima facie* the measure of recovery, but the board of education is entitled to deduct from that amount as mitigated damages whatever it can show the plaintiff has earned in other employment or could have earned by reasonable diligence in seeking other employment of the same general kind.² The burden of showing what the teacher could have earned in other employment, however, is upon the board and not upon the teacher.³ The rule governing damages recoverable for the breach of a teacher's contract has been clearly expressed by the Supreme Court of Iowa as follows:

When such contract is disregarded by the school district and the teacher is denied the right to perform, it is her duty to find other employment, and, when sued, the school district may show that she has found other employment, or that by the use of reasonable diligence she might have found other employment for the purpose of mitigating the damages; but, if the discharged teacher did not accept other employment, her damages should not be diminished for failure to secure it, unless it be shown that by reasonable diligence she might have secured

¹ *Caffrey v. Superior Court*, 72 Wash. 444, 130 Pac. 747.

² *Still v. School Township of Rock Creek*, 209 Ia. 1020, 227 N.W. 412; *Byrne v. Independent School District of Strube*, 139 Ia. 618, 117 N.W. 983; *School Directors v. Kammel*, 31 Ill. App. 537; *School Directors of District No. 1 v. Birch*, 93 Ill. App. 499; *School Directors of District No. 2 v. Orr*, 88 Ill. 648; *School Directors v. Crews*, 23 Ill. App. 367; *Ollinger v. School District No. 25*, 157 Ark. 82, 247 S.W. 789; *School District No. 21 v. Hudson*, 277 S.W. (Ark.) 18; *Gardner v. North Little Rock Special School District*, 161 Ark. 466, 257 S.W. 73; *School District No. 65 v. Wright*, 42 S.W. (Ark.) 555; *Edwards v. School District No. 73*, 297 S.W. (Mo.) 1001.

³ *School Directors of District No. 2 v. Orr*, 88 Ill. 648; *Doyle v. School Directors*, 36 Ill. App. 653; *School Directors v. Crews*, 23 Ill. App. 367; *Edwards v. School District No. 73*, 297 S.W. (Mo.) 1001.

employment of the same grade in the same locality where she was employed to teach. She was not required to accept employment in another locality or of a different or lower grade. The law is very clear on this proposition.¹

While a teacher who has been discharged without legal cause must be reasonably diligent in seeking other employment in order to mitigate the damages which the board may be required to pay, he is not bound to accept work of a nature fundamentally different from that which he agreed to perform in his contract. In the case of *Jackson v. Independent School District of Steamboat Rock*,² for example, a teacher had been employed to teach in the intermediate department. In January the board offered her a contract to teach in the high-school department at the same salary. When she refused to accept the offer, she was dismissed. In holding that the teacher was not bound to accept the offer in order to mitigate damages, the court said:

When a servant is wrongfully discharged, he is not bound to accept new employment from the same master, unless (1) the work is in the same general line as that of the first employment, and (2) the offer is made in such a manner as that its acceptance will not amount to a modification of the original agreement. If we were prepared to say that the higher grade of teaching offered was of such a character as that plaintiff was in duty bound to accept it, yet it does not appear that the offer was so made that plaintiff could have accepted it without modifying her original agreement. It was defendant's duty to make this showing. . . . The law would not thus compel plaintiff either to make a new agreement with defendant or lose all her rights under the old one. If plaintiff had accepted the offer as alleged to have been made, and found herself incompetent for the new work, she would have been liable to discharge under the new agreement, and her rights under the other would have been lost. The offer, as set up, does not constitute a defense in whole or part.

Similarly, it has been held that a person who is employed as a school principal need not accept a position as a teacher.³ If a teacher is dismissed during the summer vacation, it is not necessary, according to the Supreme Court of Michigan, that he seek other employment before the school opens.⁴ In such a case the teacher is not presumed to be out of employment until the proffered services have been rejected. If a teacher holds a contract to teach a common school for

¹ *Byrne v. Independent School District of Strubee*, 139 In. 618, 117 N.W. 983.

² *Jackson v. Independent School District of Steamboat Rock*, 110 In. 313, 81 N.W. 596.

³ *Williams v. School District No. 189*, 104 Wash. 659, 177 Pac. 635.

⁴ *Farrell v. School District No. 2*, 98 Mich. 43, 56 N.W. 1053.

a definite term, he cannot be transferred at the option of the board to the position of truant officer.¹ It has been held, however, that one who holds a contract of employment as a high-school principal is bound to accept at the same salary an elementary-school principalship in order to mitigate the damages due him by the board.²

In an unusual case decided by the Supreme Court of Arkansas,³ it was shown that a teacher was ill for some time after dismissal and during the life of the contract. The lower court refused to instruct the jury that she was not entitled to pay for the time she was ill. The Supreme Court held that there was no error in the instructions to the jury. The teacher might or might not have been ill if she had not been forced to change her position.

A teacher dismissed without legal cause and securing other employment is entitled, when the amount of damages due him is determined, to have deducted from the amount earned in the new position the expenses necessarily incurred in securing it and the necessary additional cost occasioned by the changed conditions of living.⁴ A Colorado case⁵ illustrates the rule. A teacher employed to teach in Georgetown was dismissed without legal cause. Later she obtained employment in Cripple Creek but found that the cost of living was twenty dollars a month more in Cripple Creek than it would have been in Georgetown. From the amount the teacher earned in Cripple Creek during the term of her original contract, the court allowed a deduction to cover the cost of railroad fare from Georgetown to Cripple Creek and to cover the extra cost of living. The net earnings at Cripple Creek thus arrived at were deducted from the amount due the teacher under her contract, and the amount so determined was the measure of the teacher's damages.

Where a teacher who has been illegally dismissed secures other employment for a longer term than that covered in the original contract,

¹ *Russellville Special School District No. 14 v. Tinsley*, 156 Ark. 283, 245 S.W. 831.

² *Ryan v. Mineral County High School District*, 27 Colo. App. 63, 146 Pac. 792.

³ *School District No. 21 v. Hudson*, 277 S.W. (Ark.) 18.

⁴ *School District No. 3 v. Nash*, 27 Colo. App. 551, 140 Pac. 473. See also, *Development Company of America v. King*, 170 Fed. 923; *Tufts v. Plymouth Gold Mining Company*, 14 Allen (96 Mass.) 407; *Dickinson v. Talmage*, 138 Mass. 249; *Van Winkle v. Satterfield*, 58 Ark. 617, 25 S.W. 1113, 23 L.R.A. 853.

⁵ *School District No. 3 v. Nash*, 27 Colo. App. 551, 140 Pac. 473.

it has been held that no deduction should be allowed to cover the expenses incurred in securing the new employment. In an Arkansas case¹ a superintendent of schools was illegally dismissed, but after dismissal he was elected mayor of the city for a term of two years. The court held that he was not entitled to deduct from the amount he had earned as mayor the expenses he had incurred in securing the office. The court said:

Plaintiff's election expenses were incurred in securing the office of mayor for a full term of two years, and should not be deducted from the salary earned during the first part of the term. The expenses are referable to the full term and could not be apportioned to different periods. Whether election expenses should be deducted under any circumstances we need not now decide.

CONCLUSIVENESS OF BOARD ACTION IN DISMISSAL OF TEACHERS

When a teacher is dismissed for cause, there may arise the question of the finality of the determination of the board that a cause for dismissal existed. In other words, may the teacher appeal to the courts to determine whether cause for dismissal existed? On this question there is some difference of opinion, although the weight of authority is to the effect that the action of a board in dismissing a teacher is not conclusive; whether the board had sufficient grounds to discharge a teacher is a question to be determined finally by the courts.² Thus, it was said by the Supreme Court of Oklahoma:

If the school board may then make a contract authorizing them to discharge a teacher for incompetency or other good cause, how is this power to be exercised? Certainly not arbitrarily and for mere personal reasons. There must exist a substantial cause, and the school board must take some definite and affirmative action to ascertain the truth. It will not be enough to accept vague rumors and neighborhood gossip emanating from dissatisfied pupils. It is the duty of the school board to visit the school, examine into the conduct and management of

¹ *Gardner v. North Little Rock Special School District*, 161 Ark. 466, 257 S.W. 73.

² *Urie v. Board of Education*, 86 Okla. 265, 208 Pac. 210; *School District No. 62 v. Morgan*, 127 Okla. 193, 260 Pac. 46; *Felton v. Nordland School District*, 47 S.D. 183, 196 N.W. 960; *Taylor v. School District No. 1*, 15 Ariz. 262, 138 Pac. 13; *School Directors v. Reddick*, 77 Ill. 628; *Board of Education v. Cook*, 3 Kan. App. 269, 45 Pac. 119; *Armstrong v. Union School District No. 1*, 28 Kan. 345; *State v. Preston*, 120 Wash. 569, 208 Pac. 47; *Morley v. Power*, 5 Len (73 Tenn.) 691, *Courtright v. Consolidated Independent School District of Mapleton*, 203 In. 26, 212 N.W. 368; *Ewin v. Independent School District No. 8*, 10 Idaho 102, 77 Pac. 222.

the school, and after an impartial and considerate investigation, if they find that the teacher is not coming up to the requirements of the contract, then they may safely discharge the teacher when the contract so provides. But their action is not conclusive; they do not act judicially, and cannot, and the jury must be the final arbiter of the existence of the grounds for removal.¹

It has been held, moreover, that, where a teacher is dismissed for certain reasons and the reasons are recorded in the order of removal, the board is estopped, when sued by the teacher for her salary, from setting up other causes or reasons.²

Some courts hold, on the other hand, that a school board in dismissing a teacher exercises quasi-judicial powers and that the determination of the board as to the existence of facts warranting dismissal is conclusive unless the board acts arbitrarily, corruptly, or in bad faith.³ According to such cases, the only function of the courts is to determine whether the board abused its discretion or whether the cause assigned was a legal cause for dismissal.

A case decided by the Supreme Court of Michigan⁴ illustrates the reasoning underlying this line of decisions. A teacher entered into a contract which provided that he might be dismissed for "gross immorality." He was dismissed on that ground and appealed to the courts. In holding that the determination of the board was conclusive, the court said:

The school board, a deliberative public body, in the exercise of a right, here reserved by contract, went to a hearing, quasi-judicial in character, and having grounds to sustain its finding, found that plaintiff had been guilty of gross immorality and dismissed him. Surely, the school district may not be required to accept the finding of a jury upon this question rather than the finding of its school board. If such finding of the school board may be reviewed and reversed by a jury, the government of our schools may be impaired and the position of

¹ *School District No. 94 v. Gaultier*, 13 Okla. 194, 73 Pac. 954.

² *Darter v. School District No. 50*, 161 Ill. App. 284; *Neville v. School Directors of District No. 1*, 36 Ill. 71.

³ *Finch v. Fractional School District No. 1*, 225 Mich. 674, 196 N.W. 532; *Whitehead v. School District of North Huntingdon Township*, 145 Pa. 418, 22 Atl. 991; *McCrea v. School District of Pine Township*, 145 Pa. 550, 22 Atl. 1040; *Goldsmith v. Board of Education*, 66 Cal. App. 157, 225 Pac. 783; *Corrigan v. School Committee*, 250 Mass. 334, 145 N.E. 530; *Baird v. School District No. 25*, 41 Wyo. 451, 287 Pac. 308. See also *School District No. 18 v. Davies*, 69 Kan. 162, 76 Pac. 409.

⁴ *Finch v. Fractional School District No. 1*, 225 Mich. 674, 196 N.W. 532.

school boards in dealing with such cases will be precarious indeed. Such finding and determination of the board are conclusive unless the board acted corruptly, in bad faith, or in clear abuse of its powers.

In some jurisdictions the statutes provide that a teacher who has been dismissed may appeal to the county superintendent of schools, to the state superintendent of public instruction, or to the state board of education, or to all these tribunals in sequential order. Ordinarily, when a teacher is given the right to appeal from the decision of the school board to a higher officer or board, the determination of that officer or board with respect to the existence or nonexistence of facts warranting dismissal is final and conclusive and not subject to review by the courts.¹ However, the finding of such an officer or tribunal is not conclusive with respect to the law. That is, the courts will review the case to determine whether the officer to whom the case was appealed had jurisdiction,² or whether there has been a mistaken interpretation of the law,³ or whether the officer has abused his discretion.⁴

A Minnesota case⁵ is in point. The charter of the city of St. Paul authorized the commissioner of education of the city to remove teachers after notice and a hearing. A teacher who had been removed on charges of inefficiency appealed to the Supreme Court. The court, however, refused to consider the question of the teacher's efficiency:

The manner of making such removals is wholly within the control of the legislature, and when the law which gives the power to remove provides by whom and

¹ *State v. Wunderlich*, 144 Minn. 368, 175 N.W. 677; *Jackson v. Independent School District of Steamboat Rock*, 110 In. 313, 81 N.W. 596; *Draper v. Commissioner of Public Instruction*, 66 N.J. Law 54, 48 Atl. 556; *Thompson v. Board of Education*, 57 N.J. Law 628, 31 Atl. 168.

² *State v. Trumper*, 69 Mont. 468, 222 Pac. 1064; *State v. Wunderlich*, 144 Minn. 368, 175 N.W. 677; *Double v. Board of Directors of Independent District of Clearfield*, 135 In. 95, 111 N.W. 326; *Perkins v. Board of Directors*, 56 In. 476, 9 N.W. 356; *Hobbs v. Germany*, 94 Miss. 469, 49 So. 515, 22 L.R.A. (N.S.) 983.

³ *State v. Trumper*, 69 Mont. 468, 222 Pac. 1064; *State v. Wunderlich*, 144 Minn. 368, 175 N.W. 677; *State v. Abshier*, 263 S.W. (Tex.) 263; *People v. Cooley*, 132 N.Y.S. 625; *People v. Van Horn*, 20 Colo. App. 215, 77 Pac. 978; *Thompson v. Board of Education*, 57 N.J. Law 628, 31 Atl. 168; *Hobbs v. Germany*, 94 Miss. 469, 49 So. 515, 22 L.R.A. (N.S.) 983; *State v. Graham*, 60 Wis. 395, 19 N.W. 359.

⁴ *State v. Abshier*, 263 S.W. (Tex.) 263

⁵ *State v. Wunderlich*, 144 Minn. 368, 175 N.W. 677.

in what manner that power shall be exercised, the only question open to examination by the courts is whether the statutory requirements have been complied with. Here the commissioner of education had the power to remove; the charges were sufficient in law to justify exercising the power, and the procedure followed was that prescribed by the charter. . . .

The charter vested the commissioner with power to determine as a fact whether reasons justifying removal existed, and makes no provision for reviewing or questioning his decision in any manner. The court can determine whether the reasons for removal found by him to exist are sufficient in law to justify the removal, and whether in reaching his decision he has pursued the course marked out by the charter, but it cannot substitute its own judgment for that of the commissioner as to matters of fact which the commissioner was authorized to determine. The commissioner may act on his own knowledge or on information furnished him by others. He is the judge of its sufficiency.

REMEDIES OPEN TO DISMISSED TEACHERS

A teacher who has been illegally dismissed has a right of action against the school board in its corporate capacity for breach of contract;¹ there is no right of action against the school-board members personally unless they have acted maliciously or in bad faith.² A teacher who is wrongfully discharged may immediately thereafter bring action for damages.³

A teacher who has secured judgment against a school district for breach of contract may, in case the district refuses to pay his claim, bring action for a writ of mandamus to compel payment. If the district has no funds with which to pay, a writ of mandamus will issue to compel the proper authorities to raise the required amount by taxation.⁴

Since the teacher is an employee and not a public officer, he cannot, if employed for a definite term, secure a writ of injunction restraining the school authorities from dismissing him. A court of

¹ *Burkhead v. Independent School District*, 107 Ia. 29, 77 N.W. 491; *Underwood v. Board of County School Commissioners*, 103 Md. 181, 63 Atl. 221; *Jackson School Township v. Shera*, 8 Ind. App. 330, 35 N.E. 842.

² *Sproul v. Smith*, 40 N.J. Law 314; *Gregory v. Small*, 39 Ohio St. 346; *Adams v. Thomas*, 11 Ky. L. Rep. 701, 12 S.W. 940; *Burton v. Fullon*, 49 Pa. St. 151.

³ *Sarle v. School District No. 27*, 255 Pac. (Ariz.) 994; *Edwards v. School District No. 73*, 297 S.W. (Mo.) 1001; *Boswell v. Consolidated School District No. 8*, 10 S.W. (2nd) (Mo.) 665; *Robinson v. Cabin Creek Board of Education*, 70 W.Va. 66, 73 S.E. 337; *Cheyenne County High School District No. 1 v. Graves*, 87 Colo. 52, 284 Pac. 1026; 56 C.J. 410.

⁴ *Bear v. Commissioners*, 124 N.C. 204, 70 Am. St. Rep. 586.

equity will not issue an injunction in such a case because the teacher has an adequate remedy for breach of contract in a court of law.¹ Neither may the patrons of the school, even though they be taxpayers, enjoin the board from dismissing a teacher.² In the case of *Jensen v. Independent Consolidated School District No. 85*,³ for example, a taxpayer sought to enjoin the dismissal of a teacher. In denying the injunction, the court used the following language:

The plaintiff cannot by the extraordinary remedy of injunction compel the school board to keep one employee and enjoin it from employing another employee. Neither can the board be enjoined from violating its contract with a person for his personal services as a teacher. . . . All that plaintiff can require is that the school be open under competent teachers as provided by law and that all children be afforded equal educational facilities. He has no authority to prevent the employment of a particular competent teacher. . . .

Contracts for personal service or personal skill will not be enforced, nor will the putting an end to such contracts be restrained. This is especially true when the employment involves public interest and relates, as it does here, to matters which are purely administrative in character.

Similarly, it is well settled that, when a teacher is under employment for a definite term, a writ of mandamus will not be issued to reinstate him in a position from which he has been wrongfully dismissed.⁴ The relation existing between the teacher and the school board is purely contractual, and the teacher, therefore, has adequate remedy at law for breach of contract. Thus, it was said by the Supreme Court of Nebraska:

The contract to teach in the common or free schools . . . is one of employment, and the relative positions occupied by the district represented by the board and the teacher are those of employer and employee. A teacher in the schools of

¹ *School District No. 13 v. Ward*, 40 Okla. 97, 136 Pac. 588, *School District No. 1 v. Carson*, 9 Colo. App. 6, 46 Pac. 846. The Supreme Court of Mississippi has, however, held otherwise in *Campbell v. Warwick*, 142 Miss. 510, 107 So. 657.

² *Donald v. Stauffer*, 140 Miss. 752, 106 So. 357; *Jensen v. Independent Consolidated School District No. 85*, 160 Minn. 233, 199 N.W. 911, *Greer v. Austin*, 40 Okla. 113, 136 Pac. 590, 51 L.R.A. (N.S.) 336, *School District No. 1 v. Carson*, 9 Colo. App. 6, 46 Pac. 846; *Schwieger v. Zitiike*, 136 Ind. 210, 36 N.E. 30.

³ *Jensen v. Independent Consolidated School District No. 85*, 160 Minn. 233, 199 N.W. 911.

⁴ *Taylor v. Marshall*, 12 Cal. App. 549, 107 Pac. 1012, *State v. Smith*, 49 Neb. 755, 69 N.W. 114; *Bays v. State*, 6 Neb. 167. In Tennessee a contrary rule obtains. A teacher who has been illegally dismissed will be restored to her position by mandamus. In that state, however, a teacher is held to be an officer and not a mere employee (*Morley v. Power*, 5 Lea [73 Tenn.] 691).

the ordinary district is not a public officer, nor is his position an office. . . . This being true, for any violation of the rights of a teacher under an existing contract, there would be an adequate remedy in an action to recover damages for a breach of the contract, and mandamus would not lie.¹

It follows that a teacher who has been dismissed has no right to retain possession of the school property,² even though the dismissal may have been illegal.³ In a New York case⁴ a teacher who had been dismissed attempted to enter the schoolhouse and continue the school but was prevented from doing so by force. She brought action against the trustee for assault and battery. The court ruled against the teacher because she had no right to enforce specific performance of her contract. Similarly, in Arkansas it was held that a superintendent of schools who had been illegally removed had no right to continue in possession of school property.⁵ The court said:

If Gardner was wrongfully discharged, a fact which may be conceded for the purposes of the present case, he has his remedy at law for the breach of the contract of employment. But the right to recover damages for the broken contract, if that right exists, does not justify him in refusing to surrender possession of the property and affairs of the school district.

In Tennessee, however, it has been held that a court of equity will not aid school authorities in dispossessing a teacher of school property where the teacher has been illegally dismissed,⁶ but in that state a teacher is held to be an officer and not a mere employee.

A teacher who holds his position under a permanent-tenure act, subject to dismissal for cause shown, may, when illegally dismissed, be restored to his position by mandamus.⁷ Under such circumstances the teacher has no adequate remedy at law because, the term of his employment being an indefinite time, it is impossible to determine the measure of his damages.

¹ *State v. Smith*, 49 Neb. 755, 69 N.W. 114.

² *Swartwood v. Walbridge*, 10 N.Y.S. 862, 31 N.Y. St. Rep. 757.

³ *Gardner v. Goss*, 147 Ark. 178, 227 S.W. 25.

⁴ *Swartwood v. Walbridge*, 10 N.Y.S. 862, 31 N.Y. St. Rep. 757.

⁵ *Gardner v. Goss*, 147 Ark. 178, 227 S.W. 25.

⁶ *Thompson v. Gibbs*, 97 Tenn. 489, 37 S.W. 277, 34 L.R.A. 548.

⁷ *State v. Board of School Directors of City of Milwaukee*, 179 Wis. 284, 191 N.W. 746; *Kennedy v. Board of Education*, 82 Cal. 483, 22 Pac. 1042; *People v. Board of Education*, 174 N.Y. 169, *State v. Board of Education*, 18 N.M. 183, 135 Pac. 96, 49 L.R.A. (N.S.) 62.

READING ACHIEVEMENT IN FIRST-GRADE ACTIVITY PROGRAMS

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A survey of first-grade reading in California has raised several questions concerning the effect of the activity program on the learning of reading. The results of the survey indicate that pupils in classrooms doing a great deal of activity work do not learn to read as well as do other pupils. This finding is not an indictment of the activity program but rather indicates that there are questions which should be answered by further studies. These questions can best be considered after the conditions under which this finding was determined are thoroughly understood. The procedure of the survey and the reading tests will, therefore, be briefly described.

THE SURVEY

The survey consisted in a voluntary state-wide testing program in first-grade reading conducted during May, 1931. The tests used were the Lee-Clark Reading Tests, Primer and First Reader, Forms A.¹ The Primer Test is based on the primer, and the First Reader Test is based on the first reader, of the *Child-Story Readers*.² These books have been in use in the state for about two years and are the basic textbooks provided by the state. The tests were administered to 11,167 pupils from all parts of the state. In some cases entire counties were tested. Various types of schools co-operated, ranging from one-room rural schools to schools in cities with populations of 30,000. Usable returns from 3,822 pupils were received from 144 different classrooms. Each teacher represented filled out a tabulation sheet. This sheet, in addition to a distribution of the scores of the pupils, contained answers to certain questions dealing with the size

¹ Published by Southern California School Book Depository, Los Angeles, California.

² Frank N. Freeman, Grace E. Storm, Eleanor M. Johnson, and W. C. French, *Child-Story Readers: Primer*, pp. 128; *First Reader*, pp. 152. Chicago. Lyons & Carnahan, 1927.

of the class, the number of classes in the room, the types of supplementary materials used, and the amount of activity work done.

DESCRIPTION OF THE TESTS

The vocabulary of the reading test was carefully checked against the Gates reading vocabulary.¹ Eighty per cent of the words used in the Primer Test and 74 per cent of those used in the First Reader Test are found in the first five hundred words of the Gates list. These reading tests were built to enable teachers to test first-grade pupils on a vocabulary that the children had studied. Much difficulty commonly occurs in measuring the reading ability of first-grade pupils because the tests do not use the same vocabulary as that which the pupils have studied. These tests, constructed especially for users of the *Child-Story Readers*, eliminate much of the force of this criticism.

The Primer Test consists of three parts: Auditory Stimuli, Visual Stimuli, and Following Directions. It is in booklet form, four pages in length, and is printed in primer-size type, especially adapted for primary use.

Part I, Auditory Stimuli, consists of fifteen lines similar to the following example:

the is Jack my

The pupil is told to find the word "is" and draw a line under it. The test measures the ability of the child to recognize the written form of the word named orally.

Part 2, Visual Stimuli, consists of eleven words—eight nouns and three verbs. These words are placed down the center of the page with pictures illustrating the words on both sides. There is a picture for each word, with three extra pictures to insure that the pupil is not guessing. This test measures the ability of the child to recognize the meanings of words.

Part 3, Following Directions, consists of twelve sentences of increasing difficulty, which are placed under pictures. The pupil is to mark the pictures according to the directions given in the sentences. This test measures the child's ability to read a sentence with sufficient comprehension to execute a definite direction.

The First Reader Test consists of five parts: Auditory Stimuli,

¹ Arthur I. Gates, *A Reading Vocabulary for the Primary Grades* New York: Teachers College, Columbia University, 1926. Pp. 24.

Visual Stimuli, Following Directions, Completion, and Inferences. The mechanical arrangement is similar to that of the Primer Test, and the materials used in the first three parts are of the same types as the materials in the corresponding parts in the Primer Test.

Part 4, Completion, consists of nine sentences in which the pupil is to pick out the last word. A sample is as follows:

The dog stood on the showed steps other

The test measures the ability of the pupil to understand the meaning of the sentence sufficiently well to pick out the last word of the sentence. The three choices contain only one response that is at all reasonable. This technique follows rather closely that used in the first reader of the *Child-Story Readers*. It also has the advantage of not involving recall or the remembering of the story on the part of the child; it requires only that the child read understandingly. The sentences are not taken directly from the book; consequently the possibility of memorization of the material on the part of some pupils is eliminated. Each sentence samples a different section of the book. The sentences are arranged in the order of occurrence in the book, as well as in the order of difficulty.

Part 5, Inferences, consists of eight two-line stories in which the pupil must select the final word of the story. This test measures a higher type of understanding than does Part 4. The first item from Form A is as follows:

1. Jack and Jane made a snow man.
The snow man was
red black white

FINDINGS

The teachers were asked to make a check on the tabulation sheet showing whether they were doing a great deal, some, very little, or no activity work with their classes. The sheets were separated into four divisions according to the amounts of activity work reported. Distributions of the scores for each group were made, and median grade placements were calculated. The median grade placements thus found are given in Table I together with the number of pupils in each group. Since the Primer Test was given in some cases to pupils in the low-first grade and in other cases to pupils in the high-first

grade and the First Reader Test to pupils in the high-first grade and low-second grade, there are four columns of data from which trends can be deduced. The table is read as follows: Of the low-first-grade pupils taking the Primer Test, the 191 pupils doing a "great deal" of activity made a median grade placement of 1.3, the 652 pupils doing "some" activity made a median grade placement of 1.7, etc.

Two conclusions may be drawn from these data: First, the schools reporting a great deal of activity are definitely (from one to seven months) lower in silent-reading achievement than are those reporting some, very little, or no activity work. This trend is apparent in

TABLE I

DISTRIBUTION OF 3,822 PUPILS ACCORDING TO AMOUNT OF ACTIVITY WORK
AND GRADE PLACEMENT ACHIEVED BY EACH GROUP IN READING TEST

AMOUNT OF ACTIVITY	PRIMER TEST				FIRST READER TEST			
	Low-First Grade		High-First Grade		High-First Grade		Low-Second Grade	
	Number of Pupils	Median Grade Place- ment	Number of Pupils	Median Grade Place- ment	Number of Pupils	Median Grade Place- ment	Number of Pupils	Median Grade Place- ment
Great deal.....	191	1.3	206	1.9	265	1.8	91	2.3
Some.....	652	1.7	356	2.2	867	2.3	241	2.5
Very little.....	190	1.5	205	2.2	277	2.1	70	3.0
None.....	14	1.9	141	2.2	56	1.9	0	.....
Total.....	1,047	.....	908	.....	1,465	.....	402	.....

all four groups studied. Second, the number of pupils in each group show that the majority of schools report some activity. About 20 per cent of the pupils have a great deal of activity, while about 6 per cent have no activity work.

LIMITATIONS OF THE STUDY

A number of factors which may have affected the results should be considered in interpreting the findings of the study. The main difficulty is concerned with the reporting of the amount of activity done. For example, of two teachers doing the same amount of activity work, one may have said that she was doing "some," while another might have checked "a great deal." This difficulty cannot be eliminated in studies of this type.

A criticism which can be directed against the findings by advo-

cates of the activity program is that the tests measure reading in a formal situation. The validity of this claim must be determined after studying the types of tests given. The tests are similar to other measures of first-grade reading. There would seem to be a doubt in the minds of some as to when a situation is formal or informal.

Another possible objection is that the tests measure only a few phases of reading ability and a limited part of the total vocabulary. This objection leads to several questions which can only be answered through further research.

Because of these limitations of the study, the fact that the classes of teachers reporting a great deal of activity work made lower scores on the Lee-Clark Reading Tests than did the average class should not be held as an indictment of the activity program. However, it suggests certain questions for further study.

QUESTIONS TO BE ANSWERED BY RESEARCH

The questions presented can only be answered by careful research, most of which should use experimental and control groups. The following questions seem to be in need of an answer.

1. Does the postponement of the teaching of reading increase or decrease the number of non-readers?
2. Do most activity programs provide an enriching experience in vocabulary which is of more ultimate value than is the usual instruction in reading?
3. What is the reading achievement in later grades of pupils who have been subjected to activity work in the first grade?
4. Would classes doing a great deal of activity work make better scores on reading tests which sampled a much wider vocabulary than that measured by the tests given?
5. Does the postponement of reading until the pupils are older make it possible for pupils to learn to read in a much shorter time than usual?
6. Does learning to read provide the optimum rich and varied experience in the first grade, or would some other activity provide such experience?
7. What type of classroom procedure results in the most efficient establishment of a strong and permanent desire to read?

CUES IN DIVISION PROBLEMS GIVEN IN NINE REPRESENTATIVE TEXTBOOKS IN ARITHMETIC

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This study deals with the types of problems involving division which are found in nine different textbooks in arithmetic for Grades III-VI, inclusive. In order that a pupil may decide which fundamental process to use in solving a problem, there must be something in the problem which suggests addition, subtraction, multiplication, or division. For example, in the following problem there is a certain phrasing that must be interpreted to mean subtraction: "A boy needs 75 cents for a ball, but he has only 45 cents. How much more does he need?" This identifying phrasing is called a "cue." A cue means the same thing to a pupil in problem-solving that it means to the actor in entering his rôle. Osburn reports a study of cues found in problems in a number of textbooks in arithmetic.¹ His study of cues in problems involving multiplication is exhaustive and comprehensive.

Only the cues in problems were considered in the study reported in this article. A "problem" is defined as a statement in which one or more mathematical relationships are expressed. These relationships may be expressed in either concrete or abstract units. Osburn considered only those cues which occurred in problems expressed in concrete units, that is, pounds, feet, dollars, and the like. The writer cannot see that any distinction should be made between the abstract and the concrete units. The cue is no less apparent in the problem, "How many 6's are there in 48?" than in the problem, "How many 6-inch lengths are there in 48 inches?" However, in this study no cues were considered which occurred in practice exercises. In these exercises no mathematical relationship is expressed between numbers; hence there are no problems in practice exercises.

¹ Worth J. Osburn, *Corrective Arithmetic for Supervisors, Teachers, and Teacher Training Classes*, II, 4-37. Boston: Houghton Mifflin Co., 1929.

If a pupil is to recognize cues in problems of different types, there must be a certain amount of transfer of training between similar problems. The pupil must pick out one or more similar elements in a new problem which will identify it with a problem already understood. Osburn has called this ability to identify common elements "the ability to see likenesses and differences."¹ Two things, then, are necessary to enable a pupil to make ready transfer between two problems: (1) The two problems must have some statement or element which is common to both. (2) The pupil must be conscious of this identity or likeness. The amount of transfer which will take place in problem-solving is practically dependent on the degree of likeness in the different cues. The cue is much more easily identified in some problems than in others. The following two problems illustrate the relative difficulty in selecting cues: (1) "If 15 cents is divided equally among three children, how much will each child receive?" (2) "How many acres are there in 800 square rods?" In the first of these two problems the phrase "divided equally" gives the clue to the process to be applied. In the second problem the clue is well hidden. Furthermore, all the needed data are not supplied; hence the pupil must fill in data as well as determine the process to use.

Osburn found 190 types of cues which involved multiplication. When he grouped similar cues, there were still sixty-six types. If there is a corresponding number of cues for each of the other processes, the total number of types of problems to be taught is extremely large. Of course, the factor of transfer is vital. If a pupil learns a few cues well, he may be able to transfer his ability to a type which he never saw before. Thus, a major problem for a teacher to decide is whether to teach a few cues well and depend on the pupil's ability to transfer or to teach all the possible types and place no dependence on transfer. Osburn and Drennan experimented in the third grade to determine whether teaching a few cues well would be superior to teaching many different types. In the case of each of the four fundamental processes, they selected the cues which occurred most frequently in five textbooks. The number of cues for each of the processes was as follows: addition, four; subtraction, eight; multiplica-

¹ *Ibid.*, p. 8.

tion, ten; division, six. The results of the experiment are well summarized in the words of the authors.

The results of this study show, however, that there is also marked transfer even in the case of pupils of low intelligence. These facts indicate that we are at last coming upon a sound technique for problem-solving. After many disappointments we can pin our faith on this simple procedure. Teach a few of the most important problem types thoroughly, and depend upon transfer for the remainder. Future research will undoubtedly bring about a better selection of types of problems to be taught.¹

Since the conclusion quoted indicates that it is better to teach well a limited number of cues than to attempt to teach all possible types, a problem of vital importance is to decide which cues are to be taught. Furthermore, it is of no little concern to know how adequately different textbook-writers provide types of cues in the problems offered in their books. The study reported in this article shows the degree to which there is uniformity of practice in textbooks as to the cues provided in problems in division.

METHOD OF PROCEDURE

All the problems involving division in nine series of textbooks for Grades III-VI were classified according to the type of cue found in each problem. The nine series selected were those used in a former study by the writer.² An attempt was made to include the problems given in the third book of each series, but the division cues in these problems were so hidden by the number of steps in the problems that this book could not be used in the study. The third book of each series, except Textbook Series C, offers the work for Grades VII and VIII. Therefore, in this study two books in each series were used except in the case of Textbook Series C, in which three books were analyzed.

Only cues occurring five or more times were included in the study. Osburn also excluded any cue which did not occur at least five times. The final numerical value given to a cue was the average of

¹ W. J. Osburn and L. J. Drennan, "Problem Solving in Arithmetic," *Educational Research Bulletin* (Ohio State University), X (March 4, 1931), 128.

² Foster E. Grossnickle, "Practice Material in the Estimation of the Quotient in Long Division Found in Current Textbooks," *Elementary School Journal*, XXXIII (October, 1932), 130-41.

its frequency in all the textbook series. Thus, if a cue occurred five or more times in each series, the average frequency of its appearance in the nine series would be the numerical value assigned to that particular cue. The different cues were then arranged in the order of the average values.

RESULTS OF THE STUDY

In the lists which follow are found the different cues arranged in the order of frequency of occurrence. First are given those cues which occur in all the nine textbook series included in this study.

CUES IN DIVISION FOUND IN ALL NINE TEXTBOOK SERIES

1. Finding the average when the sum is given.
2. Finding a fractional part of a given amount.
3. A is what part of B ?
4. Finding what per cent A is of B .
5. If — books cost — dollars [or cents], find the cost of one book.
6. At — dollars [or cents] each, how many books can be bought for — dollars [or cents]?
7. How many X 's are in Y ?
8. Changing cupfuls, pints, or quarts to higher denominations.

In the following list are given the cues which occur in at least five of the textbook series. The first part of the list gives the cues found in one-step problems; the second part, the cues which occur in problems of more than one step.

CUES IN DIVISION FOUND IN AT LEAST FIVE TEXTBOOK SERIES

CUES FOUND IN ONE-STEP PROBLEMS

1. Divide — by —.
2. If A trees are planted in each row, how many rows will it take for B trees?
3. A is equal to how many times B ?
4. Changing pints, quarts, or pecks to higher denominations
5. Changing ounces to pounds.
6. Finding a number when a percentage of the number is given.
7. — sheets of paper are divided equally among — children. How many sheets does each child get?
8. Changing feet to yards.
9. If — lb. of food are used daily, how long will — lb. last?
10. Changing inches to feet.
11. Changing cents, nickels, or dimes to higher denominations.
12. How many dozens are there in N eggs?
13. Changing pounds to tons.

14. Expressing a dimension of ——— feet to a scale, $1'' = A'$ [and the like].
15. What per cent of B is A ?
16. Changing seconds and minutes to higher denominations.
17. In ——— days there are ——— weeks.

CUES FOUND IN PROBLEMS OF MORE THAN ONE STEP

1. Finding the average with the sum not given.
2. At the rate of ——— for ——— cents, find the cost of ——— oranges
3. The initial and final weights are given. Find the percentage of increase or decrease [and the like].
4. At the rate of ——— for ——— cents, how many oranges can be bought for ——— cents?

In the following list are found the cues which appear in less than a majority of the textbook series included in this study. In most cases the cue occurs in only one series.

CUES IN DIVISION FOUND IN FOUR OR FEWER TEXTBOOKS

CUES FOUND IN ONE-STEP PROBLEMS

1. What is the ratio of A ft. to B ft.?
2. Find the quotient of A divided by B .
3. If A trees are planted in B rows, how many trees are in each row [and the like]?
4. Finding one side of a rectangle when the area and the other side are given.
5. In 48 cents there are ——— 6-cents.
6. Make a problem [in division].
7. For ——— dollars [or cents], you can buy ——— 25-cent articles.
8. Finding a common factor of A and B .
9. Compare [by division] A with B .
10. Changing feet to miles.
11. A men go on a picnic that costs B dollars. What was each one's share?
12. A yearly salary of ——— dollars is how much per week?
13. A is what decimal part of B ?
14. Changing square inches to square feet.
15. Find the quotient of A and B .
16. What part of A is B ?
17. How many times is A contained in B ?
18. The divisor is ———; the dividend is ———. Find the quotient.
19. A yearly salary of ——— dollars is how much per month?
20. The sum and the average of a series of numbers are given. Find how many numbers there are.
21. Changing rods to miles.
22. What two factors multiplied together make ———?
23. Find the percentage of margin or profit on goods sold at ——— times the cost.

24. How many pairs of gloves will ——— gloves make?
25. Changing days to years.
26. How many gross are there in ——— things?
27. How many square miles are there in ——— acres?
28. Express ——— sq. rd. as acres.

CUES FOUND IN PROBLEMS OF MORE THAN ONE STEP

1. A rectangular walk is $A' \times B'$. How many square yards does it contain?
2. If $\frac{3}{4}$ yd. of ribbon costs ——— cents, find the cost of one yard.
3. At ——— dollars [or cents] per hundredweight, find the cost of ——— lb. of hay.
4. How many hundredweight are there in ——— lb?
5. How many A -in. lengths can be cut from B yards of ribbon?
6. Tests for divisibility of a series of numbers for divisors 3, 6, or 9.
7. Find the cost of ——— oranges at ——— cents per dozen.
8. Finding the number of board feet in a stick of lumber when the width is given in inches.
9. Simplify by cancellation [a compound fraction].
10. If a team won X games and lost Y games, what per cent of its games played did it win or lose?
11. The volume of a cube and two dimensions are given. Find the third dimension.
12. Finding a per cent of a number by using aliquot parts of 100.
13. For ——— dollars [or cents] each, how many objects can be exchanged for A things at B cents each?
14. The cost and the selling price are given. The profit or margin is what per cent of cost or selling price?
15. How many gallons will a rectangular tank hold whose dimensions are $A'' \times B'' \times C''$?
16. When former and present prices are given, find the rate of discount [in percentage].
17. How many acres are there in a rectangular field whose dimensions are A rods by B rods?
18. Multiply A by B and add C . Then divide the result by X and give the quotient and the remainder.
19. The enrolment of a school is A pupils. If B pupils are absent, what per cent are present?
20. Find the cost of ——— lb. of hay at ——— dollars per ton.
21. Finding the L.C.D. of A , B , and C .
22. Finding the prime factors of ———.
23. If A articles cost B cents, find the cost of N articles.
24. When candy is selling for ——— cents per pound, how many ounces can be bought for ——— cents?
25. How many A -in. lengths can be cut from B feet of ribbon?

26. At ——— dollars per C or M, find the cost of ——— shingles.
27. Finding the amount of ingredients in a mixture when the ratio of the ingredients is given.
28. A man works ——— days for A articles at B cents each. How much per day does he receive?
29. How many cubic yards of dirt must be removed from an excavation whose dimensions are $A' \times B' \times C'$?
30. A man bought a car for ——— dollars and paid ——— cash. The remainder was paid in monthly instalments of ——— dollars each. How many monthly instalments were made?
31. Finding the heights of trees by the ratio method.
32. When meat sells for ——— cents per lb., find the cost of ——— oz.

A subjective element enters in a study of this type because there will always be disagreement of opinion concerning the degree of difference in cues. It is debatable whether there are two separate cues in the following two problems: (1) " A is what per cent of B ?" (2) "What per cent of B is A ?" All the nine textbook series offer the first of these cues, but only five books include the second cue. There is much similarity between the two types, but it is questionable whether a dull pupil can make a ready transfer from the one to the other. It must be remembered that there can be transfer between two situations only when the pupil is conscious of the identical elements. The writer considered the two cues so unlike that each was treated separately.

The following cue occurs in only one textbook series: "How many times will A contain B ?" The phraseology "will contain" is used very often in testing the accuracy of the estimated quotient figure. The writer showed elsewhere¹ that the two types of phraseologies needed for long division are: "How many X 's are in Y ?" and "Will Y contain a certain number of X 's?" All the nine textbook series studied use the first of these cues. It is surprising to find that only one of the nine textbooks uses the phrasing "will contain" as a cue to symbolize division.

In an earlier study, already referred to, the writer made a study of the types of estimations of the quotient figure found in the practice exercises in long division provided in the same nine textbooks used in this study. It was found that the chief characteristic of the

¹ Foster E. Grossnickle, "How To Test the Accuracy of the Estimated Quotient Figure," *Elementary School Journal*, XXXII (February, 1932), 442-46.

practice exercises in the different textbooks was the extreme variability in the number and the types of examples provided. Much of the same variability is found in the types of cues offered in different textbooks. It has been shown that only eight cues for division are found in all the nine textbooks. One measure of the amount of variation among the cues in these nine textbook series is the total number of cues offered in the problems which involve division. The number of cues used in each textbook series is shown graphically in Figure 1.

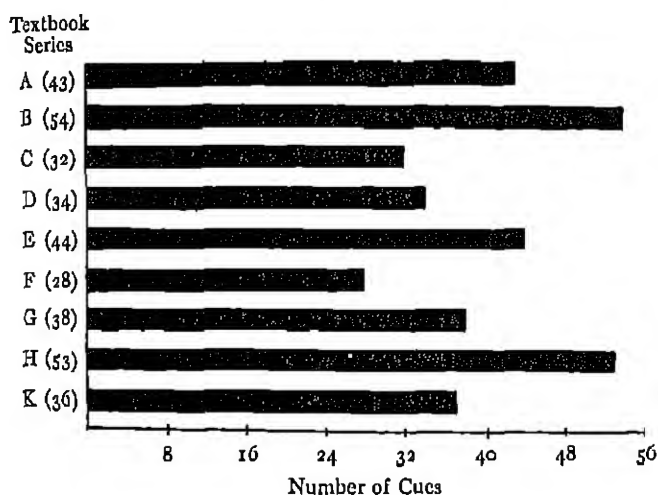


FIG. 1.—The number of cues in division problems offered in each of nine textbook series.

Although the amount of variability in the number of cues used in division problems in the different textbooks is much less than the variability in the number of practice examples provided, there is little uniformity in the number of cues offered. Textbook Series B contains about twice as many cues as Textbook Series F. Although no textbook series contains fewer than twenty-eight cues in division, there are only eight cues on which there is perfect agreement.

The difference among the problems involving division offered in the nine textbook series is also shown by the cues which occur in only one textbook, as shown in Figure 2. Thirteen cues are found only in Textbook Series B, while Textbook Series D contains only two cues which are found in no other textbook. It should be remem-

bered that, unless a cue occurs at least five times, it is not considered in this study. In many cases cues which are frequently found in one textbook series appear at least once in one of the other books.

Figures 1 and 2 show that there is much variability both in the total number of cues offered and in the number of cues found in only one textbook. The pupil who solves all the division problems in Textbook Series B secures a much wider sampling of types of problems than the pupil who uses Textbook Series F. The differences

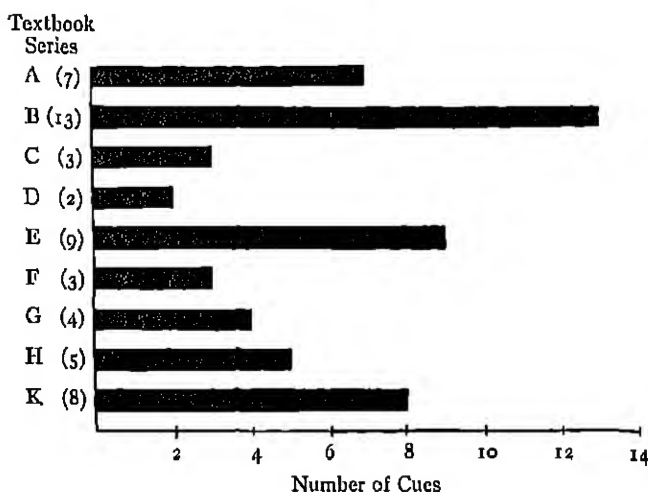


FIG. 2.—The number of cues in division problems found in each of nine textbook series which are not found in any of the remaining eight series.

in the number of cues show the necessity of determining the effectiveness of teaching a few cues well compared to the effectiveness of teaching many different types of cues with less emphasis on each type. If the results of the study of Osburn and Drennan are accepted, probably there is no need for offering as many types of cues as are provided in Textbook Series B.

SUMMARY AND RECOMMENDATIONS

In this study the writer attempted to find the types of cues offered in division problems in nine current textbook series in arithmetic for Grades III-VI, inclusive. An earlier study was made to show what provision is made for practice examples in long division

in these same textbooks. The earlier study showed that much variability exists in the types and the number of division examples offered in the practice exercises. To a lesser degree the same variability is characteristic of the cues given in the problems appearing in these textbooks. Only eight types of cues are found in all these books. Since one textbook contains fifty-four cues in division problems, there must be forty-six cues which may be missed if another textbook is used.

The most important question arising from a study of this kind is: What cues should be taught or included in a textbook? There are at present no criteria to judge the relative worth of a cue except its appearance in different textbooks. If usage is a valid criterion, then certain types of cues may be recommended for instructional purposes. This study shows that the eight types of cues found in all the books should be taught. If the majority ruling is accepted, the cues found in five or more of the textbooks should also be included in the accepted list. A total of twenty-five cues for one-step problems and four cues for problems of more than one step may, then, be considered essential in Grades III-VI, inclusive. No claim is made as to the worth of these cues except that they occur in a majority of the nine representative textbook series investigated in this study. There is great need for a scientific procedure to determine the relative worth of cues in problems. Until this scientific procedure is established, the teacher should probably teach pupils to solve the problems containing the cues in division which are now most frequently used in textbooks. It is not to be inferred that other cues should not be taught, but the twenty-nine cues included in the first two lists in this article should constitute a core of minimum essentials for Grades III-VI, inclusive.

SELECTED REFERENCES ON PUBLIC-SCHOOL ADMINISTRATION. II

WILLIAM C. REAVIS AND NELSON B. HENRY
University of Chicago

In the January number of the *Elementary School Journal* references were given to important studies published between April 1 and October 31, 1932, which deal with general administration, state school administration, and city school administration. The studies cited in this article are concerned with supervision, teaching staff, school finance, business management, and public relations.

SUPERVISION¹

36. FALLS, J. D. "A Specific and Workable Method of Supervision of Classroom Instruction," *American School Board Journal*, LXXXV (August, 1932), 29-30.

Presents a score card for the rating of teaching and evaluates the items.

37. LITTEL, C. L. "How To Get Expert Supervision in the Small School District," *Nation's Schools*, X (October, 1932), 53-58.

An account of the author's experience in extending and improving the supervision of instruction in a small city school system.

38. OTTO, HENRY J. "Implications for Administration and Teaching Growing Out of Pupil Failures in First Grade," *Elementary School Journal*, XXXIII (September, 1932), 25-32.

A brief discussion of certain concepts underlying promotional practice at the first-grade level.

39. PIERCE, PAUL R. "Administrative Aspects of Testing in First-Grade Reading," *Elementary School Journal*, XXXIII (October, 1932), 112-21.

Describes the construction and the use of a first-grade reading test as a basis for the promotion of pupils.

40. *The Supervision of Instruction in the Elementary and Secondary Schools of Alabama*. Bulletin of the State Department of Education, No. 10. Montgomery, Alabama: Division of Teacher Training, Certification, and Elementary Education, State Department of Education, 1932. Pp. 56.

Discusses the nature of results of supervision in the schools of Alabama in terms of general theory and practice and the testimony of teachers and administrators in the state.

¹ See also reference No. 36 in the January, 1933, number of the *School Review*.

TEACHING STAFF

41. EELLS, WALTER CROSBY. "It Would Be Unfair To Reduce Teachers' Salaries Now," *Nation's Schools*, X (September, 1932), 17-22.
Presents statistics pertaining to living expenses of teachers and certain non-professional groups.
42. PALMER, JAMES B. "The Depression as an Incentive in Preparing Rural Teachers," *Nation's Schools*, X (July, 1932), 21-27.
Discusses responsibility of teacher-training institutions in the light of oversupply of trained teachers and recent changes in rural economics.
43. SCHULTZ, J. S. "Professionalizing Teacher Placement," *Nation's Schools*, X (August, 1932), 46-50.
A questionnaire study of methods of teacher placement, with recommendations for improvement in procedure.
44. STOUTER, S. M. "Compensation of Teachers during Illness," *American School Board Journal*, LXXXIV (May, 1932), 40, 98.
A brief summary of research and literature, followed by the principal features of the plan used in Wilmington, Delaware, and a quotation from the rules covering the matter of pay during absence.

SCHOOL FINANCE

45. ALEXANDER, CARTER, and COVERT, TIMON. *Bibliography on School Finance, 1923-1931*: Prepared for the National Survey of School Finance. United States Office of Education Bulletin No. 15, 1932. Pp. x+344.
A comprehensive bibliography bringing down to 1931 the similar volume prepared under the auspices of the Educational Finance Commission in 1923.
46. *Finance and Business Administration*. Review of Educational Research, Vol. II, No. 2. Washington: American Educational Research Association of the National Education Association, 1932. Pp. 95-182.
A review of significant researches and references from 1923 to November, 1931. The chapters are entitled: "Public-School Accounting," "The Public-School Budget," "Revenues and Taxation," "Public Relations," "Research and Survey Techniques," "Finance and Business Management in Institutions of Higher Education," "Fiscal Control and Textbooks in Business Management of Schools," "Financial Economics in Business Management of Schools," and "State and Federal Aid."
47. FOWLKES, JOHN GUY, and PETERSON, LE ROY. "Searching Out New Sources for School Support," *Nation's Schools*, X (July, 1932), 37-48.
Shows that real estate bears an undue proportion of the tax burden. Argues for extension of income tax, assessment of real property on basis of rental value, and the taxing of intangibles.
48. MILLER, ROLAND M. "How Much Does It Cost To Carry On Adult Education Courses?" *Nation's Schools*, X (August, 1932), 41-45.
Describes evening-school plan in Sacramento, California, and suggests formula for comparative studies of evening-school costs.

49. MORRISON, HENRY C. *The Management of the School Money*. Chicago: University of Chicago Press, 1932. Pp. xx+522.
Stresses planning in the management of school money and application of scientific method to the financing of schools. Comprehensive in treatment, synthesizing theory and practice, and in line with recent emphasis on economic planning.
50. "School Funds on Deposit: Protection and Interest Rates." Educational Research Service, Circular No. 8, 1932. Washington: Department of Superintendence and Research Division of the National Education Association, 1932. Pp. 8.
Describes methods employed in thirty-eight large cities to protect school funds on deposit in banks and to insure collection of interest on deposits.
51. "Some Trends in City School Finance, 1932-33." Educational Research Service, Circular No. 5, pp. 34, and "Supplement" (September 30, 1932), pp. 6. Washington: Department of Superintendence and Research Division of the National Education Association, 1932.
Analysis of returns from questionnaires sent to superintendents of city schools asking for information concerning budget reductions for current school year.

BUSINESS MANAGEMENT

52. BEACH, FRED F. "A Successful Plan for Purchasing Coal," *School Executives Magazine*, LII (October, 1932), 66.
A method of local purchasing is described which has satisfied both the dealers and the school administrators at Oyster Bay, Long Island, New York.
53. BRIGGS, HOWARD L., and HART, CONSTANCE C. "Avoiding Pitfalls in Lunchroom Management," *Nation's Schools*, X (August, 1932), 51-56.
Gives illustrations of unexpected ways in which losses may occur and suggests methods of improvement in management.
54. CHAMBERS, JAY L. "Public-School Auditing Practices in the United States," *American School Board Journal*, LXXXV (September, 1932), 41-43, 74.
Considers the agencies and the methods of public-school auditing as prescribed by the laws of the several states.
55. DEMARY, R. C. "Care of the Mechanical Equipment in School Buildings," *American School Board Journal*, LXXXIV (May, 1932), 56, 90, 92.
Enumerates items of mechanical equipment in school buildings, describes their uses, and explains proper methods of taking care of such equipment.
56. EELLS, WALTER CROSBY. "Income and Expenses of School Janitors," *American School Board Journal*, LXXXV (September, 1932), 32.
Presents personnel data and the annual income and expenses of seventy-five members of the custodial staff of the public-school system of Fresno, California.
57. FLIKEID, JENS. "The Treatment of Schoolhouse Floors," *American School Board Journal*, LXXXV (October, 1932), 41-42, 72.
Considers the methods of preparing floors for treatment as a means of securing proper results.

58. FRISWOLD, J. O. "How the Schools' Petty Cash May Be Handled," *American School Board Journal*, LXXXV (August, 1932), 31-32, 83.
Analyzes and discusses current practices in petty-cash transactions in eighty-five school systems in Illinois, Iowa, Minnesota, Missouri, Montana, North Dakota, Oklahoma, South Dakota, and Wisconsin.
59. HATHAWAY, HERBERT M. "Types of Floors Effective for School Use," *School Executives Magazine*, LI (May, 1932), 396-98.
Discusses best kinds of flooring to use in the different rooms of a school building and describes modern trends in using various types of flooring.
60. ITTNER, WILLIAM B. "School Floors: Their Care and Treatment," *School Executives Magazine*, LII (September, 1932), 16-17.
Considers types of floors with relation to functions and offers practical recommendations regarding floor preservation.
61. MALLALIEU, W. E. "Effective Measures To Reduce Fire Hazards," *School Executives Magazine*, LII (October, 1932), 76-78.
Practical ways of reducing fire hazards in school buildings are discussed.
62. MOEHLMAN, ARTHUR B. "Attaining Functional Efficiency by Means of Constant Appraisal," *Nation's Schools*, X (July, 1932), 68-71.
Discusses considerations underlying the appraisal of the school plant.
63. MOEHLMAN, ARTHUR B. "Pertinent Questions and Answers on the School Plant Program," *Nation's Schools*, X (August, 1932), 68-71.
An answer to certain questions asked by superintendents and school architects.
64. MOULTON, ROBERT S. "Fire Extinguishers for Schools," *School Executives Magazine*, LI (April, 1932), 352-53, 378.
Gives instructions on the care and the use of different types of fire extinguishers, when to use them, who should use them, and where to keep them in a building.
65. NESBITT, A. J. "A Logical Basis for Determining the Volume of Air To Be Circulated in Classroom Ventilation," *American School Board Journal*, LXXXV (September, 1932), 44-45, 74.
Presents the results of an experiment carried on over half a school year in the variation of the air-stream temperatures in a classroom in relation to the comforts of the room occupants.
66. PETIT, L. H. "Readjusting Board-of-Education Insurance," *American School Board Journal*, LXXXIV (May, 1932), 49-50, 98-99.
Considers such questions as determining insurance adjustments, co-insurance, valuation, distribution, and number of policies.
67. WOMRATH, GEORGE F. *Efficient Business Administration of Public Schools*. Milwaukee, Wisconsin: Bruce Publishing Co., 1932. Pp. xii+464.
A comprehensive discussion of school plant, equipment, and supplies.

PUBLIC RELATIONS

68. CARR, WILLIAM G. "The Riddle of Propaganda in the Schools," *American School Board Journal*, LXXXV (September, 1932), 26, 79.

The problem of administering the school as a public institution without permitting its use for purposes of propaganda and at the same time without giving offense to those whose support is desired.

69. GOODRICH, T. V. "Should Married Teachers Be Fired?" *School Executives Magazine*, LII (September, 1932), 6-8, 42-43.

Presents a report of a questionnaire investigation dealing with economic, social, political, and professional considerations which have affected the status of the married woman as a teacher.

70. HULL, OSMAN R., and COREY, ARTHUR F. "Vital Points in Planning Publicity," *Nation's Schools*, X (July, 1932), 49-53.

Summarizes methods reported in numerous articles on school publicity.

71. MOEHLMAN, ARTHUR B. "Acquainting the Community with the School Plant Program," *Nation's Schools*, IX (April, 1932), 76-78, 80.

Discussion of a few specific means of successfully carrying on a program of progressive education by creating public opinion and support in terms of personal needs.

Educational Writings

REVIEWS AND BOOK NOTES

The problem child in reading.—Since the report in 1928 of a study by Marion Monroe (*Methods for Diagnosis and Treatment of Cases of Reading Disability*, Genetic Psychology Monographs, Vol. IV, Nos. 4 and 5), all those interested in remedial work in reading have been watching for further publications by the same author. We are now rewarded by the appearance of the book *Children Who Cannot Read*.¹ As the Foreword aptly states, this book is a "product of scientific research which is also of immediate help in removing a handicap common to thousands of school children" (p. vii). It is a book which should be in the professional library of every school and which should have the careful attention of all concerned with school reading. Though thoroughly scientific in method, the investigation is explained with such clearness and simplicity that the book is easy reading and no technical knowledge is needed to get the full benefit of its contents.

Miss Monroe's technique can be readily applied by any school system. For each child being studied an "educational profile" was made, expressing in terms of school grades the child's (1) chronological age, (2) mental age on the Stanford-Binet test, (3) achievement in arithmetic computation on the Stanford Achievement Test, (4) score in spelling on the Ayres Spelling Scale, and (5) scores in four reading tests. The tests used by Miss Monroe for reading ability were the Gray Oral Reading Paragraphs, to test oral reading; either the Haggerty Examination, Sigma I, or the Monroe Silent Reading Test, to test comprehension; the Iota Word Test, devised by Miss Monroe, to test the reading of isolated words; and the Word-Discrimination Test, also by Miss Monroe, to determine ability to distinguish words from other more or less similar words. A study of a child's educational profile showed what weaknesses existed and to what degree and thus indicated remedial methods required.

Miss Monroe points out that we must consider reading ability with reference to general mental ability and also with reference to progress in other school work. She used achievement in arithmetic computation and spelling as indications of school progress aside from reading. She then derived a "reading index,"

¹ Marion Monroe, *Children Who Cannot Read: The Analysis of Reading Disabilities and the Use of Diagnostic Tests in the Instruction of Retarded Readers*. Chicago: University of Chicago Press, 1932. Pp. xvi+206. \$2.50.

which showed how far the grade placement in reading shown by the four reading scores agreed with the grade placement indicated by the four other measures (chronological age, mental age, achievement in arithmetic, and achievement in spelling). The reading index results from dividing the average grade placement on other measures by the average grade placement on the reading tests.

Many objections may be made to this very simple way of determining reading deficiency. Measures of vastly different character are averaged as of equal weight in determining both "reading expectancy" and reading achievement. Yet this rather rough-and-ready method serves the purpose, and theoretical difficulties can be avoided if the profile is used rather than the reading index, the measures thus being kept separate and the observer weighting them as he will.

For each child studied by Miss Monroe a "profile of errors" was drawn, showing for each of ten types of errors in oral reading how the child's performance compared with that of the median of the control group for his reading grade. This profile revealed weak points and showed the way to discovery of the causes of difficulty. The careful statistical methods used by Miss Monroe need not disturb anyone seeking to apply the technique because tables are given to enable one to work from the raw scores on the reading tests to the comparative figures used.

A thorough investigation of possible causative factors is then described. Both defect and control groups were tested with regard to vision, hand and eye preference, speech defect, discrimination of speech sounds, etc. They were compared as to health histories, bodily control, home conditions, methods used by previous teachers, behavior, and the like. Miss Monroe's final conclusion from this part of her study is that "it is probable that the reading defect is caused by a constellation of factors rather than by one isolated factor" (p. 110). The special tests used are given in full.

The possible causative factors in the case of each child were studied in connection with the child's record of types of errors in order that individual remedial work might be planned. Perfect adaptation of method to cause of defect was sought. The methods used are described fully so that any worker in the field can apply them.

Finally, the results of remedial work with 235 children trained by 131 teachers are given. The progress shown is truly remarkable. Especially helpful are the detailed case studies presented.

It is to be hoped that this record of achievement by Miss Monroe will stimulate teachers and school men everywhere to attack systematically and successfully the many sad cases of "children who cannot read." Those interested in the psychology of the reading process will find much food for thought in the results of the many tests used by Miss Monroe and in the methods that actually produced improvement in reading.

E. W. DOLCH

UNIVERSITY OF ILLINOIS

Organization of public-health agencies.—In the present period of financial stress and strain many civic-minded thinkers have given consideration to a possible reorganization and consolidation of public bureaus and agencies. That health is a matter of public concern will be admitted by these persons. Consequently, they will be interested in any contribution that purports to throw any light on the present set-up of public-health organizations. One of the reports of the White House Conference on Child Health and Protection¹ presents a discussion of the many types of organization, control, and management of the several health agencies now operating—rural, city, state, federal, and non-official. Sections of the volume consider such topics as "The Training of Public Health Personnel," "Administration of Child Health Work as Part of Official Health Programs," "Relation of Practitioners of Medicine and Dentistry to Health Programs," and "Health Aspects of Food Control." The last two sections present "Recommendations" and "Dissenting Opinions."

Almost every conceivable type of public-health organization exists in this country. One finds not one answer but many answers to the question: What social agent controls public-health activities? The report states again and again the need for co-operative effort. "There should be better co-ordination between the various agencies, official and non-official, which are interested in field research and standardization in administrative practice" (p. 48). "The programs of the several state health departments and the degrees to which the several services have been developed are not uniform" (p. 128). A reading of the report convinces one that there must be a great amount of waste, both in energy and in funds, in bringing about better health conditions. However, not even the committee was of one accord!

The specific recommendations of the committee suggest that all federal activities relating to health be transferred to one bureau and that all non-official agencies "recognize the health officer as the one person officially in the community directly responsible for the health of its people" (p. 333). In spite of the inco-ordination of effort found in the survey of conditions, few constructive measures are specifically recommended for the states and local communities except that more funds and additional personnel should be provided.

In fact, a mere cursory reading of the report leaves the impression that one of the chief concerns of the committee was to secure more money and additional workers. A critical analysis confirms this belief. "The study of the aid desired . . . reveals the need for two types of assistance: first, personnel and, second, money" (p. 151). "These figures . . . indicate which groups of cities have made the most progress in securing adequate appropriations" (pp. 28-29), not which cities have made the most progress in securing better health conditions.

¹ *Public Health Organization*. Report of the Committee on Public Health Organization of the White House Conference on Child Health and Protection, B. L. Bishop, Chairman. Section II, Public Health Service and Administration, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xvi+346. \$3.00.

Of the 360 pages in the volume, 65, or over 18 per cent, are devoted exclusively to financial statistics. In addition, one constantly meets such expressions as "sufficient funds" (p. 16); "There is ample precedent, therefore, for such a procedure" [contributions from state and federal governments] (p. 20); "The federal government has been making small, but steadily increasing, appropriations" (p. 21); "Such full-time health organizations should have adequate financial support" (p. 48). Financial matters are mentioned in eight and increased funds are urged in five of the twelve paragraphs under "Specific Recommendations" concerning federal, state, and local organizations. In the case of personnel one is reminded that "an organization large enough" (p. 15), "sufficient . . . personnel" (p. 16), "clerical personnel" (p. 17), "a full-time local health organization and a well-trained personnel" (p. 48), "full-time trained personnel" (p. 152) are essential to carrying out an adequate health program.

The reviewer certainly would not say that the committee was more interested in securing additional funds and increased personnel than in providing better health conditions. Had the committee presented and defended the thesis that increased funds and workers would guarantee more healthful conditions, the many references to finances and personnel would have been wholly justified. But it did not. As the document stands, the reader is left to draw his own conclusions.

When one sees so much emphasis being placed on a need for increased personnel, one wonders why the public schools were not included in the health organization. The committee seems to have forgotten or ignored the fact that American society already has over one million agents who come in contact with approximately one-fourth of the entire population each school day. In the schools presided over by these million teachers are kept cumulative record cards that tell a significant story. If these records are not now sufficient, they could be developed as a result of advice given by specialists in health. Teachers are interested in improving the health of all—from birth to maturity and even of parents—because they know the disadvantages of poor sanitary conditions and of poor health. Reading the volume prompts one to ask: "Is society justified in providing additional funds for other public enterprises as long as complete use is not made of existing agencies?"

The report clearly shows what is being done, the amount of money being spent, and the types of organizations operating in various typical states and communities. It should lead to further analysis of the situation to the end that existing agencies may be co-ordinated and used efficiently as a basis for requesting additional funds and personnel.

CLEM O. THOMPSON

The classroom teacher and school health.—Increasing attention in both theory and practice is being given to health as a fundamental objective in education. A recent publication¹ gives a treatment of this problem with reference to second-

¹ Clar Elsmere Turner, *Principles of Health Education*. Boston D. C. Heath & Co., 1932. Pp. xii+318. \$2.00.

ary as well as elementary education. The important place of the regular teacher in the complex, co-operative school health program is epigrammatically stated in a heading in chapter vi: "The classroom teacher is the keystone in the arch of health training" (p. 88). In this chapter, also, the point is well made that "the promotion of teacher health is important to the health-education program, as well as to the quality and cost of education" (p. 89).

The author points out clearly and logically the place of the classroom teacher, the school principal, and the superintendent in the inclusive school health program, with explanation of their co-operative relation to the health services of technical health workers—physician, nurse, dentist, nutritionist, and others. In the discussion of the underlying principles of health education in chapter vi, the author emphasizes how important it is that the administrative authorities give understanding and support to the health program if adequate attention and any real success in results are to be secured. The brief treatment of the moot topic "The Relationship of the School Department to the Health Department" in the chapter on school health administration, shows exceptional understanding and judicial tact.

In an early page of the book the author lists as one of the general objectives of the public school, "to help children to do better the things which they are going to do anyway" (p. 2). Unfortunately, the word "desirable" before "things" is omitted. This omission, which occurs rather frequently, must cause regret, if not pain, to the author of that significant phrase, an eminent leader and authority today in secondary education.

The application of the experimental method in education is well illustrated in this book, as the author bases principles and procedures largely on a health-education program conducted for a decade or more under his direction and supervision in schools in Malden, Massachusetts. The interpretation and the conclusions of the results of this experiment might have been advantageously supplemented, enriched, and strengthened, perhaps, if the author had made somewhat wider reference to, and use of, available publications, authorities, and sources in the field of school health.

Chapter content and progression in this book furnish a logical and helpful sequence of basic principles and practical methods, not only for professional health workers in the schools, but also for those in education who wish to view the place and the relation of health education to the general-education program.

Chapter ii, "Health Education Defined," presents with a sound terminology the different phases of health education for all members of a community or state in a general setting, in which health education in school should find an appropriate place.

The important topic of habit formation is quite properly discussed in several places in the book. To some it will appear that too much value is attached to repetition of movement in securing permanence for a health habit as compared with the influence of emotionalized attitudes and effective motivation reinforced by a developing body of rational sanctions for health behavior. At strategic points, however, recognition is given to the value of new interests and motives

in the establishment of habits. Merited prominence is given to the fundamental importance of co-operation of home and school to secure the establishment of health habits of the children. Worthy of note is the place given to health-habit conferences with individual children. It is increasingly evident that such individual conferences, with wise guidance and counseling, are essential to genuinely effective efforts in health education, not only in college and high school, but also in the intermediate grades and even in the primary grades of the elementary school.

The discussion of special devices which may be used in teaching health calls attention to fundamental considerations with regard to the great variety of motives which may influence health behavior. This section points out errors that may be and often are made. By implication at least, it suggests the need for careful and extended study of various types of devices in order that distinction may be made between sound, successful *incentives* to health conduct and the questionable or objectionable *inducements* which are all too frequently employed. In the discussion of methods extended consideration, with detailed examples, is given to the correlation of health with other interests and subjects in the curriculum. An important criterion for sound correlation is stated thus: "The integrity of both subjects involved in the correlation must be preserved with respect to the accuracy of the factual material and the quality of the pedagogical method" (p. 196).

The important basic program of weighing and measuring children is presented exceptionally well in the text, and significant research data are given in the Appendix. The procedure of weighing children is today very widespread and prominent in the health work of schools. The practice has two distinct purposes and functions. The first is the health-service purpose. Physicians, nurses, and nutritionists consider the weight of a child, in connection with other signs and characteristics, in forming a diagnosis or a judgment with regard to the nutritional and health status of the pupil. The second purpose in weighing children is distinctly educational. These two purposes are clearly set forth as a result of the Malden experiment. "Interest in growth is the best single incentive toward the improvement of health behavior" (p. 97). The author believes that interesting a child through regular weighing is the most valuable single procedure in motivating him toward adopting good health habits. The process is educational, not clinical. The author advocates the monthly weighing of school children, the weighing to be done by the regular teacher, with the co-operation of pupils when they are old enough.

The very great value of accurate and abundant health knowledge for teachers and supervisors in health education is expounded with clarity in chapter iv. The author here makes a well-balanced distribution of relative emphases on scientific knowledge and teaching methods. He considers that there is a danger of underestimating the importance of health training.

THOMAS D. WOOD

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

The application of general method to the teaching of subnormal children.—Since the work of Itard with the "Wild Boy of Aveyron," the education of mentally defective and subnormal children has constantly claimed the attention of a number of devoted teachers. The amount of literature directly or indirectly related to the education of such children is large and is steadily growing, and contributions from various countries are being constantly made. A book from the pen of David Kennedy-Fraser¹ is especially concerned with methods and technique. To anyone familiar with the work of Itard, Seguin, Kuhlmann, Goddard, Wallin, Doll, and Descocudres (to mention only a few), the statement of the last-named writer that "in every country, in fact, the majority of the mentally defective children are still left to their unhappy fate" (Alice Descocudres, *The Education of Mentally Defective Children*, p. 17) may seem surprising. It is all the more surprising in view of the extensive literature now available dealing with method, curricular content, and technique of the education of defective children. Kennedy-Fraser's book is by no means as complete with respect to types of material and specific techniques and games as, for example, Descocudres' book. Nevertheless, it appears to be a desirable addition to the literature because of its simplicity of presentation and especially because of its exposition of the application of progressive methods to the teaching of subnormals.

In the introductory chapter the author justifies a minimum of the three R's for the group in which he is interested on distinctly practical grounds. His definition of a backward child in chapter ii follows the nomenclature suggested by the British Joint Committee Report on Mental Deficiency. The book is devoted to that group of children with intelligence quotients from 50 to 80, thus overlapping the American classifications of mentally defective and dull normal. While the reviewer prefers the classification suggested by J. E. Wallace Wallin (*The Education of Handicapped Children*, chap. vi) and believes that the educational problems involved justify this classification, it must be admitted that Kennedy-Fraser's grouping is defensible.

The chapters on school reorganization and class organization, while brief and simply written, are excellent. They contain a good argument for ability grouping, of which the special classes are a distinct example, and show the applicability of certain modern methods—the Dalton plan, the project method or "play," individual instruction, etc.—to the teaching of subnormal children. Following these are chapters devoted to pre-primary education and to the teaching of oral language, handwork, writing and spelling, reading, composition, and number. The last three chapters in the book are concerned with the older children, the Mongolian, and the teacher. All the chapters are brief. The style is easy and pleasing. The author has admittedly drawn largely from Decroly and Monchamp and from Itamaide. As previously indicated, less specific material and fewer specific techniques are mentioned than in other books; and the

¹ David Kennedy-Fraser, *Education of the Backward Child*. New York. D. Appleton & Co., 1932. Pp. viii+236. \$1.80.

theoretical discussion, with the exception of that concerning method, is much less adequate than, for example, Wallin's treatment. Throughout the book, however, close attention is given to modern method, and many discussions of teaching difficulties are included with constructive suggestions.

The author, formerly an assistant professor at Cornell University, is evidently familiar with a great deal of the American literature, including educational psychology; literature dealing with the project method, the Dalton plan, the group-study plan, and the teaching of reading; and Dewey's writings. In a small book the author has been unusually successful in integrating certain important French contributions and modern American literature concerned with method. Because of this integration the book should serve admirably for beginning teachers of subnormal and backward children, especially those teachers who have not had the advantage of an elaborate training course such as those found in some institutions. Even those teachers of subnormal children who follow the more elaborate training courses should find the book helpful.

A certain formidable problem arises as a result of the advances made in the teaching of subnormal children. I am permitted (by permission of J. G. Rockwell, who assumes no responsibility for any interpretation) to mention the work being done at the Schiller School in Minneapolis. Two teachers, Miss Frances B. Norman and Miss Mary L. Martin, for four years have been utilizing a sort of project method in teaching subnormal children with intelligence quotients ranging from 62 to 90. This procedure has resulted in greatly increased motivation so that a median achievement in several subjects equal to, or exceeding, that of normal children in the same school has been secured. Are our subnormal children the real unfortunates? The problem is thereupon apparent. Surely if subnormal children can, under proper motivation, approximate the present level of achievement of normal children, should not the achievements of normal children, under equally good motivation, be much greater? One of the lamentable developments of the "modern testing movement" (so-called) is the fairly general acceptance of the notion that children should be grouped on the basis of past achievement rather than on some basis throwing into relief their degree of motivation.

AUSTIN H. TURNEY

UNIVERSITY OF KANSAS

The economics of school administration.—During recent years the literature on the financing and the business administration of the schools has grown by leaps and bounds. For the period from 1923 to 1931 the *Bibliography on School Finance, 1923-1931*, which was prepared for the National Survey of School Finance (United States Office of Education, Bulletin No. 15, 1932), annotates approximately five thousand references on school finance. This unusual productivity has been due to the unparalleled development of the schools during the last decade and to the necessity for large increases in school revenue. Moreover,

the business depression which started in 1929 has made the financial problems of the schools much more acute and has stimulated research and literary endeavor in school finance at a greatly accelerated rate.

So long as the "financial well" of the public seemed inexhaustible and so long as the public was willing to bear the increasing cost of education, all that was necessary was to request more revenue for the schools and it was provided. The financial goose has not been hanging high during recent years, however, and money for public purposes has become increasingly difficult to procure. Since the beginning of the business depression in 1929 the tax-paying public not only has been opposed to granting additional revenue but has insisted that expenditures be decreased; above all, the public has demanded that its money be expended without waste.

The difficulty of securing increasing amounts of money for the schools and the growing insistence of the public that its money be expended more economically than in the past has forced school officials and employees to have an interest in the *spending* of school revenue as well as in its *securing*. This interest has been evidenced during recent years by the large and rapidly growing literature on the business management of schools; already hundreds of magazine articles, scores of bulletins and monographs, and approximately a dozen textbooks on school-business management have appeared. Now comes Morrison's treatise in this field.¹

The theme of the book is "that the preservation of our school system in its civil and social purpose depends upon the successful application of the systematic ways of scientific method to the financing of schools as well as to methods of teaching and to instructional method in general" (p. vi). The book tells how to apply successfully those "systematic ways of scientific method." It does so in twenty comprehensive chapters written under such titles as "The Fundamental Accounts," "Economic Cost of Schools," "Depreciation," "Economics of Personal Service," "Overhead," and "The Budget."

This is not "just another" book. It is different from practically all other books in school administration in that it keeps in mind the relation of school finance and school-business administration to other fields, and particularly to economic law. Morrison does not write merely from the point of view of the cloistered specialist in school finance; he shows that he is a profound student of many fields of learning, such as public finance, economics, history, and sociology. From his rich experience and his keen observation he weaves a philosophy of school-business administration which is not to be found in any other book. It is this excellent philosophy—this abundance of "hard sense," if you please—which constitutes the chief contribution of the book. We need more books like this one—books with facts, and with the meaning and the relations of those facts shown.

WARD G. REEDER

OHIO STATE UNIVERSITY

¹ Henry C. Morrison, *The Management of the School Money*. Chicago: University of Chicago Press, 1932. Pp. xx+522. \$4.00.

Teaching pupils to apply spelling rules.—Anyone who follows the trend of investigations in spelling must have observed that we are in the midst of a resurgence of interest in spelling rules. A topic which refuses to stay buried after it seems to have been safely interred must still have in it a spark of life. The vitality of the problem is probably due in part to skepticism with regard to the reliability of earlier experiments but more still, perhaps, to a persistent desire to find a short cut to the arduous path of spelling instruction by a resort to generalization. This desire may originate in a type of wishful thinking, but it also affords the basis for a hypothesis and a starting point for additional research.

Luella M. King¹ endeavored to determine "the effects of teaching certain spelling rules in each of several elementary grades" (p. 6). Seven rules were

PERCENTAGE OF PUPILS SPELLING ALL TEST WORDS CORRECTLY

RULE	GRADE					
	III	IV	V	VI	VII	VIII
I.....	22	44	37	63	73	74
II.....	71	67	86	95	94	100
III.....			14	50	48	53
IV.....		74	78	97	94	97
V.....			17	60	35	65
VI.. ..	15	20	44	44	38	.....
VII.....			6	28	31	53

selected on the basis of frequency of application, number of exceptions, and ease of learning, and these rules were taught in accordance with detailed lesson plans. The results of the instruction were measured by a final examination on each rule. The author did not aim to settle the question whether the rules should be taught. She aimed rather to discover "whether children can understand and apply these rules under certain very limited conditions" (p. 64). Three lessons were given on each rule.

The cautious conclusion of the author is "that all except two of the rules here tested were understood and applied by grade children with enough success to warrant further study" (p. 64). The degree of success is shown for the reader in the accompanying table. This table is the reviewer's summary of data presented in seven tables of the report and indicates the percentage of pupils in each grade who spelled all the words correctly under the several rules, the number of test words for each rule averaging ten.

In connection with the interpretation of the results, it should be pointed out that in the final tests the words to which a given rule applied were grouped

¹ Luella M. King, *Learning and Applying Spelling Rules in Grades Three to Eight*. Teachers College Contributions to Education, No. 517. New York: Teachers College, Columbia University, 1932. Pp. x+80. \$1.50.

under a heading briefly identifying the rule. Thus, it is evident that the percentages do not indicate the number of pupils who were able to apply the rules perfectly as occasion arises at random in everyday life. Furthermore, the percentages represent immediate rather than remote memory and are manifestly not high in comparison with the immediate-memory scores on words carefully taught without reliance on rules.

Teachers interested in the use of rules in spelling instruction should derive many valuable insights from this report.

FREDERICK S. BREED

Backgrounds of American history for younger pupils.—Reviews of other of Miss Keltz's textbooks in history for the intermediate grades have previously appeared in these pages. Thus, to mention that the volume under review¹ also belongs to the Tryon and Lingley History Series is to call to mind the unit plan of organizing subject matter, the colorful adaptation of stories to the level of children's understanding, and the use of sound educative principles.

This book and its companion volume, *The American Colonies*, treat, with certain exceptions, the same subject matter as the author's longer book *The Beginnings of the American People and Nation*. As the title suggests, the textbook under consideration precedes in content *The American Colonies*. It contains four units, the last two of which deal with the same subject matter as Units One and Two of the larger book. The unit titles are as follows: "How a New Civilization Took Form during the Middle Ages," "How People Lived during the Middle Ages," "Why Men from the West Wanted To Reach the East," and "How the Nations Tried To Get Wealth from the New World."

The first two units are new material. Unit Three is almost exactly duplicated from Unit One of *The Beginnings of the American People and Nation*. Although the last unit uses much of the similar unit in the larger book, there is some change in order and some new sections have been added. The section telling of the Dutch settlements is omitted, but there are given instead the story of Columbus' third and fourth voyages and brief accounts of Pizarro's exploits and of the Spanish civilization in the New World, which round out the narrative of the Spanish. The section dealing with the coming of the French into the heart of the continent, which prefaces the unit on the struggle for North America in the other book, is here told with the story of the French. "The Spacious Days of Good Queen Bess" is inserted before the discussion of Drake, and the tale of the Great Armada follows the description of Raleigh's attempts at settlement and points the way to future colonization. The book ends with a short section entitled "A King by Divine Right," which, although it contains some facts helpful to concepts to be presented in the following book, seems none the less somewhat out of place.

¹ Mary G. Keltz, *The Old-World Beginnings of America*. Boston: Ginn & Co., 1932. Pp. x+380. \$1.00.

The outstanding features of the book are undoubtedly its organization into understandable units and its realistic presentation of vital subject matter in language and terms which rarely prove stumbling blocks to children. The latter result is achieved by strict adherence to a tested vocabulary, a simple yet charming style, and a knowledge of the kind of detail which makes history live for young children of the middle grades. One might add that clearness and teachability are greatly aided by the elimination of unnecessary dates and proper names and by the adequate explanation of new concepts as introduced.

The book is attractively made up. The print is easily read, the pictures are well chosen and well reproduced, and the simple maps are not cluttered with too many names. At the top of each page where a new division begins is an appropriate black-and-white design, which, with the following sentence or two of comment or question, points the way forward into the story.

If one were to suggest a criticism of such a commendable piece of work, it would be to wish that certain statements might be revised so that apparent inaccuracies are not presented to the children. As an example, in discussing the Crusades, the author says: "Each man who would promise to go received from the Church a red cross which he sewed on his left arm" (p. 153). There is no further mention made of this symbol of the Crusaders, yet the boys and girls are going to read in other books that the cross was worn on the breast, on the helmet, on the right shoulder, or, when returning, on the back. Even the illustration in this book on page 155 shows the cross in some of these locations and fails to show clearly the cross on the left arm of any of the figures.

Again, in a description of the Northmen there is this ambiguity: "They followed up the rivers which could be reached easily from the Baltic Sea (especially the Dnieper) as far as the Black Sea" (p. 40). One needs knowledge of the facts to realize that what is meant is that the Northmen followed up the rivers from the Baltic Sea, portaged across the lowland to the easily reached rivers (especially the Dnieper), which they followed down as far as the Black Sea.

Strictly speaking, these and similar statements are not entirely incorrect. Since, however, they need interpretation to get at their true meaning, surely their restatement would be of great help to children.

Even with the duplication of earlier material, this volume has sufficient new subject matter to make it a valuable addition to the history literature for the middle grades, and it will undoubtedly fit into courses of study which find it expedient to use one book for a year's or a half-year's work beginning with the Middle Ages.

RUTH WATSON

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

An Analytical Bibliography of Modern Language Teaching, 1927-1932. Compiled for the Committee on Modern Language Teaching by Algernon Cole-

- man, with the assistance of Agnes Jacques. Chicago: University of Chicago Press, 1933. Pp. xiv+296. \$3.00.
- BLACKHURST, J. HERBERT. *Introducing Education*. New York: Longmans, Green & Co., 1932. Pp. xiv+320. \$2.50.
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Educational News and Editorial Comment

SHOULD BOARDS OF EDUCATION BE ABOLISHED?

In a recent address delivered in Chicago and published in the current issue of the *Elementary School Journal*, Dean Charles H. Judd suggested that the board of education in Chicago be abolished and that a superintendent, to be appointed by the mayor, be made the sole official responsible for the administration of the schools of the city. Although Dean Judd was speaking in terms of the Chicago situation only, it is possible that his suggestion may be equally applicable to other large urban centers.

The existing mechanisms for the administration of local government in this country were never designed to function in complex urban communities. Representing a desire to keep government responsive to the popular will, these mechanisms took form in small communities in which the people had a more-or-less intimate personal knowledge of their representatives and a fair understanding of the problems confronting their local government. During the greater part of our history, moreover, the functions of local government have been relatively few and simple.

The development of large urban communities has made it increasingly obvious that the old forms of local administration will sooner or later have to be materially modified. Changing economic and social conditions have enormously increased the functions of local government both with respect to their spread and with respect to their complexity. The effective functioning of local government, especially in urban areas, requires a great deal of expert management. It is just at this point that the old forms of local administration break down; commonly they provide for a type of political control which makes it impossible to secure a high order of scientific management.

Despite the marked resistance to change displayed by governmental organizations in this country, considerable progress has been made during the past quarter of a century in the development of expert executive leadership. This tendency is perceptible in federal, state, and local governments. Centralization of authority in the hands of executive and administrative officials seems to be the surest way to secure economy and efficiency in administration. Moreover, it seems to be the most effective method—if, indeed, not the only method—of keeping government responsive to an informed popular will.

It seems obvious that in the years immediately ahead the structural organization of local government in this country will be materially modified. School people may as well begin to consider seriously the place which school administration will occupy in this new pattern of local government. The schools, in reality and in legal theory, are essentially and intrinsically state institutions; education in its very nature is not a municipal function. This principle has been applied by the courts in numerous decisions. It is a principle which must govern no matter what changes may take place in the mechanisms of local government. The state, however, is free to employ whatever local agencies it will for the administration of its schools.

In case it seems desirable to abandon boards of education as agencies of control in the larger urban centers, consideration will have to be given to three other possible types of administrative organization. The first type may be described as follows: The legislature would continue the school district as a quasi-corporation separ-

rate from the municipality proper. It would abolish the board of education and make the superintendent the sole official responsible for the administration of the schools. The selection of the superintendent would be a duty imposed on the mayor or the city manager, who, in making the appointment, would act as an *ex officio* state officer. Once appointed, the superintendent would be in complete control of the schools except as restricted by legal enactment. A second type of organization would relate the schools more directly to the city government. In addition to appointing the superintendent, the proper municipal authority would determine the school budget. Within the limits of his budget, the superintendent would be unrestricted in the administration of the school system. A third type of organization would consolidate all the local governmental agencies in a given area and place them under the control of a single governing body.

AN ATTACK ON THE PROFESSIONAL TRAINING OF TEACHERS

The American Association of University Professors has recently made public the report of its committee on required courses in education. The express purpose of the committee was to gather evidence which would reveal the effectiveness of professional education of secondary-school teachers. It was thought too that this evidence would serve to indicate the amount of professional training which the various states should require of those seeking positions as teachers in the secondary schools. The evidence on which the committee based its conclusions was drawn primarily from two questionnaires. The first of these was sent to the principals or head masters of 136 private secondary schools. Replies were received from 83 of these institutions. The second questionnaire was sent to 1,800 high-school teachers in the following states: California, Indiana, Kansas, Louisiana, Missouri, Nebraska, New York, North Carolina, and Ohio. Three hundred and ninety-one usable replies were received. Of the eighty-three head masters answering the questionnaire, thirty-seven indicated that they do not desire professionally trained teachers, twenty-five indicated only slight interest in professional training, and ten indicated a definite desire that their teachers have some degree of professional training.

Among other things, the high-school teachers were asked to indicate the number of semester hours of professional training which they considered "adequate" and the number which they considered "profitable." In scoring the returns, the committee classified the teachers into four groups: (1) holders of the Bachelor's degree, (2) holders of the Master's degree, (3) teachers of special subjects, and (4) administrators. Table I summarizes the results.

TABLE I

GROUP	MEAN NUMBER OF SEMESTER HOURS OF PROFESSIONAL TRAINING CONSIDERED—	
	Adequate	Profitable
Holders of Bachelor's degree	14.7	19.6
Holders of Master's degree	15.2	17.8
Teachers of special subjects	15.8	22.4
Administrators	17.8	22.0

At present seventeen semester hours of professional training is the average required in the different states. The number and percentage of the replies indicating the number of "adequate" and "profitable" hours as less than seventeen are given in Table II.

TABLE II

GROUP	TEACHERS CONSIDERING LESS THAN 17 SEMESTER HOURS OF PROFESSIONAL TRAINING—			
	Adequate		Profitable	
	Number	Per Cent	Number	Per Cent
Holders of Bachelor's degree	103	70.5	49	38.0
Holders of Master's degree	57	65.5	32	46.4
Teachers of special subjects	23	53.5	7	21.2
Administrators	14	53.8	7	31.8

The secondary-school teachers were also asked to answer the following question: "Do you consider that there is more overlapping or duplication of content in 'professional courses' than in other subjects?" Of the 380 answers to this question, 282 indicated the opinion that there is more overlapping in the professional courses than

in other subjects, nine were uncertain, eighty-eight were in the negative, and one indicated less overlapping in the professional subjects.

One other question to which the committee attached a great deal of importance was as follows:

There is discussion at the present time concerning methods of improving teaching in colleges and universities. You have had contact with college teaching and also experience with a certain type of training claimed to increase professional proficiency. Which do you think would be most likely to raise the standard of college teaching? Check 1 or 2.

1. Requirement of professional courses under an agency outside the field which the student is studying, e.g., requirements in the School of Education, along the lines of those now in force for secondary-school teachers.

2. More consideration of the problem by the subject-matter department itself, for instance, a course under a particularly successful teacher in the department, supplemented perhaps with some practice teaching.

In fifty-nine of the responses to this question Item 1 was checked; in 311, Item 2; and in five, both items.

On the basis of the evidence revealed in the questionnaires, the committee felt justified in arriving at some fundamental generalizations and recommendations. The type of reasoning which the committee employed to reach some of its generalizations may be illustrated by the following excerpts from the section of the report entitled "Conclusions and Recommendations."

The fact that in half the states the professional training required is unrestricted as to particular courses tends to contradict a claim that any specific course is essential. The lack of agreement even among Educators is seen when one state expressly decrees that supervised practice teaching cannot be waived on the basis of experience, while other states allow such substitution. The low average of 6.6 specified hours in contrast to the total average of 17.0 required hours indicates that present requirements are excessive when judged on the basis of agreed value.

The only subjects that are required to a degree that indicates that they are in any way fundamental are: practice teaching, educational psychology, methods. The average number of required hours in these subjects is only 4.0. This is less than one-fourth the total average requirement. . . .

A complaint frequently made to university teachers of academic subjects by those students who are preparing to teach is that there is a great deal of overlapping or duplication in the different professional courses they take. The replies to Question 10 in the inquiry show that the view is not an ephemeral one. It definitely survives, and the criticism is repeated, and frequently with emphasis, after the persons have ceased to be students and have become teachers them-

selves, with the more seasoned judgment that experience has given them. Three-fourths of the replies (and this was a question on which all but a few replies could be scored), assert unequivocally that greater duplication and overlapping exist in professional courses than in subject-matter courses. Only three or four persons, confirming the fact, add a comment of justification. Only one person reports that, in the professional courses he had taken, he had found less duplication than in subject-matter work.

Educational literature lays a great deal of stress on the necessity of having well-defined objectives, thoroughly worked-out plans, and carefully conceived organization in all projects. In the answers to Question 10 there is a verdict on the actual practice of organizing and co-ordinating. Failure to be exemplary in the simple, but highly important, problem of devising courses that fulfil their purposes without fatiguing and unnecessary repetition is a very significant criticism.

The existence of the overlapping and the duplication suggests that there is not enough sound, wholesome, truly vigorous material to make courses that will total the hours required. As a result there is artificiality and padding, the obvious and even the trivial becoming labored as if it were profound. Such artificiality is strongly charged by the teacher of English who says that if meaningless phrases were abolished, the subject of methods could be condensed into two weeks. While the statement may be somewhat exaggerated, it nevertheless serves to call attention to one possible explanation of the padding. . . .

Teachers of the more pedagogical courses should be distinguished as successful instructors, if any faith is to be put in the claim that such courses do actually lead to an improvement of instruction. Teachers of other subjects in departments of Education should also rank high, for they must generally be sympathetic to the pedagogical courses, and they have certainly given more attention to them than professors as a class. If such superiority does not exist, it can be concluded that the practical part of the professional courses consists for a large part of facts that are obvious, or so simple that they can be acquired with a small amount of formal instruction. . . .

But, granting that a person is not temperamentally disqualified, and has not such distaste for the details of administrative work that he will slight it, there is *not much in such work that ordinary intelligence will not quickly master*. The contact that a teacher has with the principal, assistance of an administrative kind that he might actually render, together with some independent reading and study, ordinarily should suffice to qualify him for directing a school, so far as knowledge that does not arise from actual experience, is concerned. To be convinced of this a person need merely read some of the books dealing with the subject of administration.

The recommendations of the committee were as follows:

1. There is no reliable evidence that professional requirements have resulted in an improvement in secondary instruction at all commensurate with the amount of the requirements.

2. A considerable lowering in the requirements would result in economy, and would not lessen the effectiveness of instruction in the high school. There is, in fact, reason to believe that, on the average, teaching would be improved through a possible increased knowledge on the part of the teacher, of the subjects he teaches or of related subjects.

3. A maximum of twelve semester hours is ample to cover that part of professional training which can be regarded as essential for the beginning teacher who has a Bachelor's degree from a standard college or university, and who qualifies for teaching an academic subject. The training should involve practice teaching and methods, the methods course being closely integrated with the practice teaching. Courses in psychology or educational psychology, when these are required, should be counted towards the requirement.

4. Some of the general courses which are now taken before a person has taught, would be far more significant after he has had two or more years of experience. They should therefore not be a part of pre-service training. They should be moved into the graduate school, where they could be given a more substantial character.

5. The basis for renewal of certificates, or for advancement, should not stress professional study unduly, but should give emphasis to further academic study. Only in unusual cases should the total hours of professional work exceed twenty in the case of a person holding the Master's degree.

6. The basic idea underlying certification of high-school principals and other officials, when special certification is required, should be very carefully considered. It should not be forgotten that such persons have a wider and deeper function in education than the mere discharge of administrative matters. Certification requirements should not emphasize one type of qualification to the neglect of others.

The unbiased reader will not fail to ask a great many questions with respect to this remarkable report. How any committee of university professors could have allowed themselves to arrive at generalizations about teacher training on the basis of a questionnaire from 83 private-school principals and 391 high-school teachers will be difficult for anyone to understand. Principals of public secondary schools are generally supposed to possess some competency in evaluating efficient teaching, and yet this group was ignored altogether. One wonders too how many of the 391 high-school teachers from whom answers to the questionnaire were received are teachers in private schools. The committee enumerates the states from which replies were received but fails to indicate the number received from each state. Were most of the replies from a few states or were they widely distributed? Why did the committee completely ignore the

results of a similar but much more comprehensive investigation made some years ago by the North Central Association of Colleges and Secondary Schools? In 1923 this association took a mail vote of all its members on the question of raising the required professional training of teachers from eleven to fifteen semester hours. Nine hundred and eighty-one members of the association voted. Eight hundred and forty-five of these were high-school principals, and the remainder were presidents of colleges and universities. Seven hundred and fifty of the members voting, or more than three-fourths, voted to raise the required professional training from eleven to fifteen hours.¹

The committee of the American Association of University Professors arrived at its generalizations on the basis of evidence which is obviously inadequate. More than that, it failed to make an objective and impartial interpretation of such meager evidence as it gathered. For example, the committee contends that it presents evidence to warrant the conclusion that twelve hours of professional training is ample for the beginning teacher. The evidence submitted by the committee from its own questionnaire warrants no such conclusion. To torture the data given in Table I into evidence supporting a twelve-hour minimum of professional training is indeed a statistical feat, but one which the committee accomplishes to its own satisfaction.

The following example illustrates the simplicity of the method. The committee says: "It [a twelve-hour requirement] is only one hour less than the average of 'adequate' hours given by 131 of the 146 members of the A.B. group." This sentence is explained by a footnote which reads: "An inspection of the table . . . shows a sudden dropping in frequency for the 22-24 hour class. The fifteen persons giving over twenty-one hours as adequate influence the general mean out of proportion to their number. When they are omitted, a mean of thirteen hours is found." It should be pointed out, however, that the thirteen persons giving six or less hours as adequate are not similarly disposed of. Statisticians who may wish to arrive

¹ The report of this investigation may be found in the *Proceedings of the Twenty-ninth Annual Meeting of the North Central Association of Colleges and Secondary Schools* (1924), pp. 26-39.

at a desired mean will find this device of discarding as many as 10 per cent of the cases very convenient. The next sentence in the report reads: "One-half the entire A.B. group, without the elimination of the cases whose answers raise a question of interpretation, gave thirteen or fewer hours as adequate." An examination of the table referred to by this statement does not disclose data upon which such a statement could be based. As a matter of fact, an examination of this table reveals that only 56 of the 146 teachers gave 12 or fewer hours as adequate.

Prejudice, frankly exhibited, may not be the unpardonable sin of scientific research, but few reputable investigators would care to reach fundamental generalizations from the kind and the quantity of evidence employed by the committee. The only purpose the report will serve is to becloud the issue which it seeks to clarify.

AN ATTEMPT TO MAKE THE OFFICE OF THE UNITED STATES
COMMISSIONER OF EDUCATION A POLITICAL OFFICE

The following document has been circulated by a group of educators with the view of securing support for the appointment of the person named in it to the office of United States commissioner of education.

A group of friends of Dr. ——— have conceived the idea of securing her appointment as United States Commissioner of Education. At first, without consulting her, some of us made investigations to ascertain whether influential support for her for this place could be secured, and, finally, we informed her of our plan, and with her consent, we have continued our efforts. We believe that she has an excellent chance to receive this appointment.

We have the promise of support for her for this appointment from many prominent Democrats, including a number of congressional representatives and senators and other influential friends.

Believing that letters to President Roosevelt from a number of her friends in various parts of the United States will be helpful, we are sending this to request you to write a letter to President-elect Roosevelt asking him to appoint Dr. ——— to this position.

We are of the opinion that in character, in training, and in experience, she is especially fitted for this place, and that leadership of her type is especially needed at present. . . . In addition we think that this appointment would be a signal recognition of women and will effectively satisfy the request made by many women of the country that high officials, in appointing women to impor-

tant positions, shall select those especially trained for the work and those who have previously rendered successful public service.

President Roosevelt's address is Hon. Franklin D. Roosevelt, Hyde Park, Dutchess County, New York. We are enclosing, for your convenience, a brief sketch of the life of Miss ———. You are requested *not* to send this with your letter to the President-elect, but to choose from it any facts that you may desire to use in your communication, and to add what you choose, from your own knowledge.

Miss ——— has made the especial request that no publicity be attached to the efforts of her friends to secure her appointment to this position. We, therefore, ask you kindly to refrain from making public in any way the movement to place her in the position of United States Commissioner of Education.

No Democratic president has yet regarded the office of United States commissioner of education as a political office. When Cleveland became president in 1885, John Eaton was commissioner of education. Eaton continued to hold the office until August, 1886. William T. Harris, an appointee of a Republican administration, held office during Cleveland's entire second term. Wilson made no change in the office of commissioner of education during either of his terms as president.

That the United States commissioner of education should not be regarded as a political appointee should be obvious to everyone. Friends of education everywhere should use their influence to establish the tradition that this office is professional and non-political in character. An incoming president is never justified in making a new appointment to this office except for professional reasons. It is unfortunate, therefore, that at this time a group of educators should attempt to impress on President Roosevelt the desirability of appointing a new commissioner of education. Such is especially the case since the effort to secure a new appointment seems to be based wholly on the assumption that the office is subject to political control and influences.

A POPULAR UPRISING AGAINST BUDGET CUTS FOR SOCIAL SERVICES

Practically everywhere authorities responsible for the expenditure of public funds are making drastic cuts in the amounts to be spent in the purchase of essential social services. In most instances, no doubt, these reductions in the budget represent a belief that it is

possible to reduce expenditures for education, health, libraries, and other welfare agencies without material injury to social well-being and without arousing popular resentment. The fact is that these public services are so essential, so fundamentally necessary in a modern industrial society that the public will not long tolerate a policy of drastic retrenchment. Already the citizens of Rochester, New York, have been aroused to vigorous and effective protest against the policy of the city council in reducing expenditures for the maintenance of the city's educational and cultural institutions. The popular uprising in Rochester is the kind of situation that is sure to develop in many other American communities.

The following statement describing the action of the citizens of Rochester was published in the *New York Times*.

Like a mild-mannered dog that turns and shows its teeth when somebody steps on its tail, culture and education in Rochester have answered a welter of financial blows with such ferocity that they appear to have saved, for a time at least, a reputation that has been a community tradition for nearly a century.

Nobody, the city council included, apparently expected the storm of protests that followed drastic budget cuts for libraries, museum, and schools at the turn of the year. The effect was to wring more funds from the council for the public library and the Municipal Museum of Arts and Sciences, while the schools, which took a \$990,000 slash with more calmness, found their path smoothed somewhat by the offer of teachers, parents, and night-school students to help pay for educational services that might otherwise be lost. It was a hot fight while it lasted, with citizens' committees organizing with war-time speed, clubs and pupils issuing protests, and radio appeals asking support from homes.

The bewildered city council can hardly be blamed for all the hubbub. Like city councils throughout the nation, it has to cut expenses. The increasing welfare load ran the city's credit close to the danger line.

The council, however, underestimated the depth at which the tradition, laid in part by philanthropists years ago, had taken root. Scientists and educators attracted here by the development of botanical research at Highland Park, a broad pioneer health program and pupil-classification plan in the public schools, inauguration of the state's first classroom-extension work and development of vicinity historical research at the museum, institution of musical education by radio along with that of New York City, and similar movements had created a heretofore unestimated public interest.

The attempt to reduce the school-nurse staff brought the first violent protest. Parent-teacher associations minced few words in condemning the move as one laying the city's school children open to epidemics. Other organizations and

parents as individuals protested in letters and public petitions. The council turned elsewhere.

It slashed the public-library allotment to \$110,000 and reduced the museum's appropriation to a point where it seemed likely that the institution would have to close. Almost immediately citizens, led chiefly by educators and clergymen, discovered they had a common interest and formed the Citizens' Library Committee to protest those cuts. The organization, by the prominence of its personnel and fierceness of its attack, proved formidable. Didn't the council know that exhibits worth hundreds of thousands of dollars would go to ruin through lack of care at the museum and that the library was facing unprecedented demands because of the presence of thousands of idle? Didn't the community owe its unemployed a chance for self-education and wholesome recreation as much as it did something to eat? The council after a time voted an extra \$25,000 to insure part-time service at branch libraries and \$9,000 to keep the museum open, and indicated that further funds would be forthcoming later in the year.

The public-school cut of nearly a million dollars was more or less expected. It had been obvious for a long time that the board of education could not continue to maintain in its curriculum all the art, music, swimming, night school, business and other courses not required by state law. The council had been liberal in arranging the budget for the fall semester, and the teachers' association had done its bit by voting to return 10 per cent of instruction salaries to the public coffers. The battle to retain educational standards, therefore, took on the aspect of sympathetic campaigning to help the board reduce expenses where the reduction would hurt least.

The teachers immediately voted to continue their 10 per cent salary return for another semester, thus contributing \$530,000. Parents of pupils at the fresh-air school guaranteed contributions to keep the school open through the winter, and the principal offered to serve without salary. Adult students in the Regents Evening High School agreed to turn in locker and other fees and took to collecting discarded neckties to sell to a manufacturer in attempt to raise the \$11,000 necessary to keep their classes operating until June. The teachers' association began discussion of an employment system partly to save a hundred comrades from losing their jobs and partly to insure continuation of art and music classes they felt would take years to revive should they be stopped now.

PITTSBURGH MEETS AN ATTACK ON ITS SCHOOL SYSTEM

The school board of Pittsburgh has recently been subjected to criticism by a committee of the state legislature and by others who demanded that the board make further reduction in its expenditures. The board met this criticism in a manner which should serve as an example to boards of education throughout the country. First, the board satisfied itself that it had cut expenditures to the lowest point consistent with the maintenance of essential school services. It then

invited a committee of four nationally known educators to make a careful study of the economies which it had put into effect and to indicate other possible economies. The committee, consisting of Charles H. Judd, Herbert Weet, John W. Withers, and George D. Strayer, chairman, were requested "(1) to suggest any possible economies that have not already been effected by the school board; (2) to propose in the light of the present economic situation any saving of money for the taxpayer through the modification of the curriculum which can be accomplished without injury to the children enrolled in the schools; (3) to inquire concerning the possibility of reducing the cost of the school system through a decrease in the amount of money spent for the administration and supervision in the schools; (4) and, in general, to give [their] judgment with respect to the various educational problems involved in the consideration of a further reduction in the school budget."

The following paragraphs are quoted from the report of the committee.

We have examined carefully the record of the economies effected during the past three years. We have conferred with the administrative officers of the school system regarding possible economies which experience in the larger school systems of the country has shown to be possible. We have attempted to arrive at an understanding of the local demands for a reduction in taxation. We have sought to relate all of these considerations to our knowledge of the general economic situation. We submit the following statement as an expression of our judgment regarding the problems on which we were asked to advise the board.

No statement regarding expenditures for education can be justified which does not give full recognition to the truth of the position taken by the board of education of Pittsburgh which has said: "There is no other problem so vital to the American people as the reduction in the cost of government to the lowest point consistent with the necessary service to be rendered" . . .

We do not find that anyone is suggesting that the high schools be closed.

A decrease in the expenditures for public education can be brought about by:

1. Reducing the number of persons employed.
 2. Decreasing the salaries paid
 3. Reducing the amount, quality, or cost of supplies and equipment furnished to the schools.
 4. Postponing expenditures for capital outlay.
 5. *Eliminating from the school system services which it is now furnishing.*
- A study of administration, as well as of supervision, in the Pittsburgh school system since 1930 shows four results that merit special comment

The first of these is a reduction in the number of persons employed in admin-

istration and supervision. This readjustment has meant substantial reductions in expenditures. The second is a change in the assignment of duties of supervisory officers which has relieved them of administrative responsibility and left them free to devote all their time and energy to improvement of instruction. The third has been the placing of increased responsibility on the principal of the school for the educational direction and control of the school. The fourth is the provision of adequate clerical assistance to care for much of the detail, thus making it possible for administrative and supervisory officers to devote the maximum amount of time to the important services for which they are chosen.

The voluntary contribution made without exception by the employees of the board of education, through their acceptance of a 10 per cent reduction in salaries, will result in a reduction of school expenditures for the school year 1932-33 of more than \$1,000,000. The decision of the employees of the board to make this contribution was reached in accord with the principle enunciated by the board that it is more important to maintain services for children than it is to maintain salaries. . . .

The possibility of effecting further economies through the revision of the present curriculum has been given serious consideration. The curriculum in operation in the Pittsburgh schools does not offer richer educational opportunities to the children of the city than do the curriculums of school systems of other cities that are economically no more favorably situated. Under present conditions every suggestion of economy sincerely made deserves most careful consideration. The position is taken by some that such subjects as music, physical education, art, and the like should be eliminated from the schools at the present time in the interest of economy. The suggestion, if carried out, would not result in economy for it would still be necessary to employ an equal or perhaps larger number of teachers to care for the pupils. In most cases the teachers of special subjects are at present teaching larger classes than the average, and in some instances much larger classes than are assigned to the teachers of academic subjects. In fact, the teaching of special subjects in high schools tends to lower rather than to increase the cost of instruction.

Moreover, it is a serious mistake to look upon these subjects as nonessential. They are in fact fundamental requirements in modern education. . . .

The total reduction in the current budget over that of the year previous of \$1,568,755 has, in our judgment, been wisely made. After reviewing, item by item, the reductions in each department as affecting the services provided in the school system, we are of the opinion that nothing but present economic conditions can justify all the savings that have been made.

During our efforts to study the economies which have been effected, we have been impressed by the completeness and the ready availability of all the records at the central administration offices. We are also convinced that all the efforts which have been made have been undertaken with a view to preserving unimpaired the services of the schools. We cannot close this statement with-

out commending to the people of Pittsburgh the administration of the school system as fully deserving their confidence.

THE REPORT OF THE PRESIDENT'S RESEARCH
COMMITTEE ON SOCIAL TRENDS

In September, 1929, President Hoover requested a committee of scientists to make a detailed study of recent social changes in the United States and to make a report of their findings. The committee was composed of the following persons:

Wesley C. Mitchell, *Chairman*, Professor of Economics, Columbia University

William F. Ogburn, *Director of Research*, Professor of Sociology, University of Chicago

Charles E. Merriam, Professor and Chairman of the Department of Political Science, University of Chicago

Howard W. Odum, Director of the Institute for Research in Social Science, University of North Carolina

Alice Hamilton, Harvard School of Public Health, Boston

Shelby M. Harrison, General Director of the Russell Sage Foundation, New York

Edward Eyre Hunt, *Executive Secretary*

The committee secured the services of a number of other specialists, and with the co-operation of hundreds of collaborators the work has been carried to completion. The report of the committee, entitled *Recent Social Trends in the United States*, has recently been published in two volumes by McGraw-Hill Book Company. A great deal of the supporting evidence of the report and detailed facts which necessarily could not be included in it will later be published in a series of thirteen monographs.

The work of the committee represents, without doubt, the most ambitious attempt ever made to appraise the drift of a nation's social life and culture. It should serve, as it was intended to serve, to "supply a basis for the formulation of large national policies looking to the next phase in the nation's development."

The following statement is quoted from *A Review of Findings by the President's Research Committee on Social Trends*, a review prepared by the committee itself.

It may indeed be said that the primary value of this report is to be found in the effort to interrelate the disjointed factors and elements in the social life of America, in the attempt to view the situation as a whole rather than as a cluster of parts. The various inquiries which have been conducted by the Committee are subordinated to the main purpose of getting a central view of the American problem as revealed by social trends. Important studies have recently been made in economic changes, in education, in child welfare, in home ownership and home-building, in law enforcement, in social training, in medicine. The meaning of the present study of social change is to be found not merely in the analysis of the separate trends, many of which have been examined before, but in their interrelation—in the effort to look at America as a whole, as a national union the parts of which too often are isolated, not only in scientific studies but in everyday affairs.

The Committee's procedure, then, has been to look at recent social trends in the United States as interrelated, to scrutinize the functioning of the social organization as a joint activity. It is the express purpose of this review of findings to unite such problems as those of economics, government, religion, education, in a comprehensive study of social movements and tendencies, to direct attention to the importance of balance among the factors of change. A nation advances not only by dynamic power, but by and through the maintenance of some degree of equilibrium among the moving forces.

The report is organized into four parts. The first part deals with problems of physical heritage, with minerals and power and land. The second part has to do with problems of biological heritage and treats of quantity of population and quality of population. Problems of social heritage are treated in the third part. In this section of the report attention is given to inventions and economic organizations, social organizations and social habits, and ameliorative institutions and government. The concluding part is devoted to a discussion of policy and problems.

School people will be especially interested in the chapter on education prepared by Charles H. Judd, Dean of the School of Education, University of Chicago. In this chapter Professor Judd traces and interprets the major changes in education in the United States during the past three or four decades. In a monograph to be published later Professor Judd will treat in greater detail the problems confronting American education.

THE PLACE OF THE BOARD OF EDUCATION¹

CHARLES H. JUDD
University of Chicago

It has frequently been pointed out during the past two years by the mayor and by others who have had occasion to discuss school affairs in Chicago that the board of education of this city is entirely independent of the city officials. Although the mayor appoints the members of the board and the city council confirms the appointments, the board, after it is organized, is entirely independent of the city government.

The explanation of this fact is that education is in law a state function, not a function of the municipal corporation. The state merely uses the mayor and the city council as its agents in placing members on the board of education. The state might have used judges or might have provided for election of members of the board of education by popular vote. In some cities of the United States it is the practice for judges, acting under state laws, to appoint members of the boards of education. In many cities members of the boards are elected by the people. In Chicago the mayor is designated by the state law as the officer who appoints the members of the school board, but, after making the appointments, he has no legal control over the board.

After the board of education is organized, the only authority which it is obligated to recognize is the state law. The state law defines the rights and the duties of the board. Furthermore, the state law sets the limits of taxation which a board of education may impose on citizens for the conduct of schools. The whole operation of the educational system is under the state law, not under city ordinance.

Another way of explaining the situation is to say that education is one of the primary duties of a sovereign state. There are innum-

¹ A radio address given on February 4, 1933, under the auspices of the Illinois State Branch of the National Congress of Parents and Teachers

able court decisions which make clear the principle that the state sets up schools in exactly the same way in which it sets up a taxing system and in exactly the same way in which it provides courts of law to deal with citizens' rights and with criminals. The state legislature creates local agents to execute the various laws which it enacts. To the mayor and his associates in the city government, the state gives, by enacting a city charter, certain duties and certain powers. In like fashion, the state gives to an entirely different body, namely, the board of education, the control of the school system.

The school system of the city of Chicago operates under a charter which was enacted into law by the legislature of Illinois in 1917. Prior to that date the school system operated under older school laws which had proved unsatisfactory. We are not interested at the moment in the details of the older laws or in the particular features of the law of 1917 except at one point, namely, the point at which provision is made for the appointment by the board of education of a superintendent of schools.

A superintendent of schools has been recognized as necessary to the conduct of the schools of Chicago ever since 1853. The board of education in charge of schools has always been made up of citizens drawn from the industrial, commercial, and professional ranks of the city. When the city was incorporated in 1837, the board of citizens was called a "board of school inspectors." This board of school inspectors found that they needed the services of an expert who could devote his whole time to supervision of the schools. They therefore arranged, in 1853, for the employment of an expert school man to administer the schools.

As the public school system has grown with the growth of the city, the problems of school administration have become more and more complex. The superintendent's office has been enlarged, assistant superintendents of various grades have been appointed, and new officers, such as a business manager and an attorney, each with a corps of assistants, have been added to the central executive offices of the school system.

Something of the specialized character of the superintendent's duties will be understood when it is recognized that he must set up a system for the training and the selection of teachers. If the selec-

tion of teachers is not on a professional basis, incompetent persons will be put in charge of classes through political influences. The superintendent must set up the machinery for arranging the curriculum, that is, the courses of instruction. Only when the curriculum is constantly revised and enriched in order to keep it in step with advancing civilization will it provide adequately for the education of the young people of the city. No board of education can, or should, select textbooks or arrange the details of the program of instruction. Other facts could be cited to show why the board of education long ago found it necessary to employ a superintendent. Since 1853, when the first superintendent was employed, it has become increasingly necessary to have an expert in charge of the schools.

In the meantime, while the central expert officers of the school system have increased in number, the board of inspectors, made up of citizens, has also changed in character and in its relation to the system. The original board of inspectors was made up of leading citizens who were interested in their neighbors and in their neighbors' children and were willing to give time to consulting about schools. The members of the board of inspectors were known personally to their fellow-citizens and were subject to the kind of guidance in determining school policies which comes from intimate personal contact. Today the situation is very different. In a great city members of the board of education are so far removed from the parents of the children who attend schools that there is none of the intimate personal contact which was common in earlier times.

Furthermore, the operations of the school system have become so complex that the ordinary citizen has lost all knowledge of details. When he reads in the papers that a committee of taxpayers is demanding that the board of education operate within the limits of a fund of \$48,000,000, the ordinary citizen finds it difficult to form any true idea of what the discussion is about.

Not only is the ordinary citizen lost in the consideration of vast sums of money spent each year in maintaining schools, but he is disturbed by rumors to the effect that these sums are being badly managed. He hears that school buildings cost far more than similar buildings erected by business corporations. He hears that the employees of the board of education are paid on schedules which are

grossly unjust in their recognition of different kinds of services. He is told that the board of education does not dare to deal with the unions which include builders and janitors in their membership. He hears that the board of education is not in sympathy with the teachers and the superintendent of schools. All told, the plain man on the street begins to wonder what is to become of the children of the city during the controversies which seem to be waged continuously at school headquarters.

Every business man in the United States knows that business concerns would be completely discredited if they were conducted as the schools of this city are today. Let us think of the board of education as comparable to the board of directors of a corporation. Let us think of the experts at the central office of the schools as the managers of the system. The controversies in the school system can be described by saying that the members of the board of directors are trying to operate the system, interfering at every turn with the managers, seeking advantages for their friends and clients at the expense of the corporation, and constantly reversing their policies. There is a continual uproar at the board of education, a veritable babel of tongues. The members of the board assume the right to decide on all kinds of issues which call for expert judgment. They overrule their experts; they neglect the advice of the superintendent; they quarrel with the city hall; they bicker with one another; they are often ignorant of the needs of the children; and in many instances they are on the board for purely political or financial reasons. It has been frankly admitted during the past two years that the board of education of this city is the last hold on government retained by a political group which for years was in control of the city. It is said with equal frankness that in May the political group now in control of the city will be in control of the schools. The children of this city would benefit from less politics in the board of education. The city wants good schools, not schools managed for janitors or political parties.

There is a possible solution of the difficulty. Let the board of education be abolished. Let the mayor appoint an expert to manage the schools. Let this expert be the superintendent and organizer of the schools, responsible for what goes on in the system. Let the

funds of the schools be under his management, subject to the restrictions imposed by state law. This arrangement would make it possible for experts to prepare the budget. It would create an obligation for experts to explain directly to the people what the schools are doing for the children. It would put an end to secret meetings of the board and of budget committees of the board. It would take the schools out of the hands of people who may know something about the duties of lawyers and about the organization of factories but who have revealed lamentable ignorance of all that goes to make schools efficient.

The appointment of the expert superintendent may safely be left to the mayor. If he is a wise mayor, he will seek proper advice. If he is an unwise mayor and makes a bad appointment, the reaction against him will be overwhelming. No one who knows the history of this city can doubt that on two recent occasions when a mayor has been overthrown, the cause of his overthrow was his tampering with the schools. American people are more desirous of good schools and good courts than of anything else in their government. Public sentiment would check any disposition on the part of a mayor to make a bad appointment of the expert superintendent.

The proposal to abolish the board of education and put a trained expert in charge of the schools is in line with the best principles of modern business. It is in keeping with the advice of experts on government, who tell us that we should consolidate the now separate and conflicting units of government. It is a proposal amply justified by more than a generation of shameful mismanagement of the public schools of this city.

The sooner the parents of the city of Chicago call for and secure a revision of the antiquated school organization under which the children of this community are suffering, the better it will be for the community.

PUBLISHERS AND THE CURRICULUM

P. A. KNOWLTON
The Macmillan Company

The last ten years have been an era of curriculum innovations. Formal co-operative curriculum research, begun slightly more than a decade ago, is today perhaps the most characteristic activity of teaching and administrative bodies in American schools. Striking as it does at the very heart of all educational procedure, it is the framework to which all the lesser educational enthusiasms attach themselves. Experimental schools, private and public progressive schools, and schools of the more traditional type vie with one another in refining their courses of study.

This activity is increasing rather than diminishing. Ideally, it would be a tremendous economy of time, effort, and money if the school systems in each of the states which have local course-of-study and textbook autonomy would agree to divide themselves into groups of cities and counties where geographical, occupational, social, and cultural conditions are similar and to produce, through a single intercommunity effort, a recommended but optional course of study for each curricular district. Each public-school community, however, and each private school is for the most part distrustful of the value of its neighbors' contributions in such matters and aspires to produce a curriculum replete with innovations and demonstrably superior to its rivals. In other words, this is an era not only of increased curriculum activity but of curriculum competition.

It would be most inconsistent for an educational publisher to complain of competition as an institution, for his own business is highly competitive. Nevertheless, it is pertinent, even though perhaps at the same time impertinent, to point out that, just as many poor or indifferent books are produced under a competitive system of publication, so many poor or indifferent courses of study result from this welter of curriculum research. Furthermore, it may be

pointed out that, just as books range from the spontaneous and inevitable fruition of new and sound educational programs, at the one pole, to the mercenary sponsoring by influential leaders of the reactionary product of educational hacks, at the other pole, so courses of study range from charters of freedom to codes of oppression or instruments of license.

Is it not high time that American education, while emphasizing sound and necessary curriculum research, purge itself of amateurish, unnecessary, and futile tampering with the established order? Are not our children sometimes sacrificed on the altar of experimentation for its own sake? Are not public funds squandered to satisfy the curricular vanity of small communities that would do better to model their curriculums, with such slight modifications as might be advisable, after those of their larger neighbors who have better facilities for valid research? Have not classroom teachers been encouraged to feel that educational innovation—good, bad, or indifferent—is the surest road to preferment in their own systems?

The changes which public education is aggressively making in its own content imply corresponding changes in the methods and the materials of instruction. Teachers are trained to teach in one way and must presently learn to teach in another. That is not so serious as might seem to be the case, for the names given to child-centered, as opposed to subject-centered, methods change more often than their substance. From *memoriter* methods to project instruction was a mighty leap; but from projects to problems and from problems to units and from units to activities (or was it vice versa?) was but a series of mincing steps—dancing on a dime. Trifling dislocations of teaching method, however, become gaping fractures when these methods are incorporated into textbooks. The unit teacher who has been a project or an activity teacher becomes such as a result of a process which, according to her adaptability, ranges from reading a magazine article to taking a summer-school course under the newest leader. Once she becomes a unit teacher, she demands a unit textbook and looks askance at mere project or problem textbooks as survivals of the Dark Ages.

To succeed in meeting the needs of the schools, and consequently to succeed commercially, the educational publisher must be at once

sympathetic and critical. Most of his criticism he keeps to himself. Even when he declines manuscripts, it is rarely advisable to state in full his reasons. Doing so would merely provoke fruitless controversy. The publisher must appreciate the significance of every educational movement and endeavor to view it in proper perspective. This ability requires a synthetic activity on his part which corresponds to the analytic activity of the curriculum-makers.

Twelve years ago the organization of which the writer is a member was advised in all good faith to reconstruct its entire schoolbook list on a strictly project basis. According to this proposal, pamphlet projects were to be accompanied by reference books of facts, and, in effect, our existing list of schoolbooks was to be scrapped and our obligations to their authors repudiated. Superficially such a proposal represented whole-hearted and exclusive adoption of the project method by a publisher. We did not follow this advice for the following reasons (aside from our disinclination to cease promoting the books we already had): (1) We did not believe that so thoroughgoing a form of the project method would ever be accepted by any great proportion of the schools. (2) If we should disregard the project pamphlets—the lineal antecedents of pupils' guide sheets—and focus our attention on the encyclopedic books of facts, we were forced to recognize that the latter would, in effect, represent a return to textbooks of an excessively archaic type. (3) We regarded the whole idea as theoretically unsound, since projects thus hatched in advance were not projects at all according to the accepted definition of projects, which requires that they be spontaneous in their origin.

Instead, we and all other publishers published books with a larger quasi-project and problem content than had been customary theretofore. Schools dubbed reactionary by the project enthusiasts continued to purchase textbooks of the older type. Thoroughgoing project devotees, on the other hand, were not content to use any one book exclusively. Instead, they used a few copies of several books or confined themselves largely to work with posters, magazines, time-tables, and other free materials solicited from a variety of sources, both public and private, as substitutes for books. Not only had the aggregate textbook market been diminished, but what survived had been split up.

Now units and activities are upon us. Has any publisher a better reason to surrender unconditionally to units than he had to capitulate to projects a few years ago? Let me not be misunderstood: Units and activities are excellent bases (or should I say an excellent basis?) for the organization of classroom instruction when directed by an expert teacher with the assistance of a profusion of materials of instruction, primarily books and secondarily visual-sensory aids and all the other paraphernalia of the modern classroom. The newness of these movements (or of this movement), however, has recently been called into question in two very penetrating articles. In a recent article G. W. Hodgkins analyzes the "new methods" as applied to the teaching of science¹ in a manner which applies equally well to other subjects, tracing the almost imperceptible transformation from one form into another of the interest motif. In another article Roy O. Billett reveals the essential identity of the half-dozen newest "plans," not perhaps in theory but at least in practice: "The conclusion is inevitable that, in practice, differentiated assignments, long-unit assignments, individualized instruction, the contract plan, the laboratory plan, the problem method, and the project method are one and the same thing, differing only in name."² Somebody has at last discovered it! The schools, however, are from year to year demanding textbooks that conform fully if not blatantly to the terminology of the hour. Long past is the time when school-books became outmoded only with the publication of a new census. Even those rare works of genius or near-genius that are supreme in their respective fields (and there are pathetically few of them) must now be shelved when the dogma of the master of today gives way to the new statement of essentially the same dogma by the master of tomorrow. As the birth-rate of new books has gone up, their life-expectancy has been shortened. It would not be shortened, however, if classroom teachers, who are usually far better makers of detailed lesson plans than are textbook authors and, conversely, far less capable writers, would co-operate with subject-matter special-

¹ G. W. Hodgkins, " 'New Methods' as Applied to Social Science Teaching," *Historical Outlook*, XXIII (November, 1932), 338-45.

² Roy O. Billett, "Plans Characterized by the Unit Assignment," *School Review*, XL (November, 1932), 660.

ists rather than compete with them and would concentrate their energies on the production of guide sheets and workbooks.

In this brief review of the factors which tend not only to confine the use of individual books to fewer schools than formerly but to doom them to shorter lives, we have thus far referred only to influences which represent the sincere beliefs of educational leaders and their followers and which, when operating under proper conditions, are beneficent in their effect. In passing, we must mention with bated breath what we may term "the curriculum racket" as practiced today in some cities and states. This racket consists in the deliberate withholding from publication of courses of study in school systems large enough to constitute in themselves adequate markets for books until new, and usually mediocre, books by the course-of-study makers themselves are ready for publication. This practice further limits the distribution of any one book and is of worse than doubtful service to education. A poor or mediocre book that conforms literally to a syllabus is often a deadening influence as compared with a better book that violates at least the time order of the syllabus. Frequently, however, teachers in systems in which a course of study is definitely prescribed will prefer to plow through a dull and inadequate book consecutively rather than to play leapfrog with the chapters of a superior book.

This situation, in brief, is that which confronts the schoolbook publisher of today. What can he do about it? Primarily, he must choose among several kinds of books:

1. Books that, while so devised as to make the maximum incidental appeal to pedagogical cults, are essentially permanent in character. Such a book depends for its popularity on the author's mastery of factual content, on his ability to write interestingly and perhaps with distinguished style, and on his many-sided knowledge of children's capacities and of the vocabulary and ideas understood by children (rather than his diligence in thumbing word lists as he writes). The author of such a book bows wisely but not abjectly to the most recent demands with respect to organization, testing and drilling devices, and supplementary projects and activities. Such a book in its essence is a highly individual creation; in the outward form of its "pedagogical equipment" it is highly eclectic. Such a book, if su-

premely well done, may be widely used (though not so widely as it once would have been), and its popularity may continue for several years (but not so long as formerly). It will be used both in the traditional schools and in progressive schools of the more moderate type which openly decry extreme methods.¹

2. Books that exemplify as intimately as possible the latest and most approved pedagogical demand. A history textbook organized by units would be such a book, especially if each unit were qualitatively different from the others, long as compared with the chapters in books of the old type, and equipped with introductions, tests, and supplementary activities that conform to the neo-Herbartianism of the unit school. It is of course entirely possible that such a book may be prepared with all the spontaneity and intrinsic merit of a book in Class 1, but inevitably its distribution is limited by three factors: (*a*) the probability that the present pattern of unit instruction will, within a shorter period than the normal lifetime of a textbook, be superseded by new patterns not yet invented; (*b*) the virtual certainty that such a book will not prove acceptable either to the traditionalists or to the followers of other new creeds, for example, to those teachers who wish their history intermingled with geography and the other social sciences; and (*c*) the proneness of the adherents of each of the new movements to devise their own units and hence to disapprove of any textbook prepared by others.

3. Books local in their subject matter rather than in their conformity to local courses of study, for example, histories and geographies of individual states. In the case of such books the geographical limitations of the market are usually offset by the fact that they enjoy a partial or complete monopoly.

4. Books frankly of the reference type, such as school encyclopedias, of which a single copy or set must normally suffice for a school or a classroom.

5. Supplementary books and juvenile books, both those of the type provided in classroom quantities and those of the type of which a few copies are sufficient for an entire class.

¹ A case in point is the Scarborough School, whose latest bulletin tells us: "It is known as a 'progressive' school, yet it does not use 'extreme' methods. The school attempts to combine the best of the old and of the new."

In addition to books of these five types, an educational publisher must be open-minded with respect to the advisability of producing non-book materials of the following types:

6. Perishable workbooks, drill books, test books, study guides, and the like, paper-bound and therefore inexpensive.

7. Paper-bound pamphlets, such as the *Lessons in Community and National Life* issued in 1917-18 by the United States Bureau of Education in co-operation with the United States Food Administration, the series entitled "Achievements of Civilization" now being published by the American Council on Education, and the "Modern Problems Series" now being issued by the American Education Press.

8. School periodicals, including both magazines and newspapers, normally either weekly or bi-weekly during the school year.

To be sure, the publisher's exercise of judgment in emphasizing one or more of these eight types of publications in preference to the others is commercial rather than curricular in nature. Every publication planned, however, represents a definitely curricular contribution, since it either determines or further crystallizes current curricular practice. For example, the question of the feasibility of mergers of related subjects, such as mixed social science, mixed mathematics, and mixed language (for literary appreciation, reading, grammar, composition, rhetoric, and writing have long been inextricably mixed), must be faced squarely. Publishers are interested more in ideas than in authors (many are the failures resulting from hasty tie-ups with promising authors whose ideas of the curriculum had not been subjected to the keenest scrutiny), yet seldom can a publisher afford to commit himself exclusively to any one curricular philosophy. Publishers of mixed mathematics must continue to publish algebras and geometries; publishers of mixed social science must continue to publish histories, geographies, and the like. The publisher must, of course, visualize definitely the type of school which each of his products fits and promote it accordingly.

To what extent may the publisher do definitely creative work in the curricular field? To a considerable extent, we think. With the curriculum specialists of the country for the most part engrossed in carrying out their individual theories, the publisher makes it his

business to decide what gaps there are in the aggregate of curriculums now in vogue, with a view to filling these gaps. We conceive of the production of the series "Achievements of Civilization," previously referred to, presumably intended for use in the junior high school, as such an effort. To be sure, this series is not the product of a commercial publisher, but it is entirely comparable to a commercial publisher's product in the care and skill exercised in its editing and makeup. Likewise, in the elementary-school curriculum of today there are many topics in and of themselves directly educative, in that they enable the child to understand his complex environment, which have hitherto been indefensibly overlooked. They are not definitely history or arithmetic or geography or language as such, nor are they likely to be involved in the play, manual, or reading units most commonly administered in activity schools. Some day a publisher will gather these loose threads, many of which are as valuable as those which form the warp and the woof of subjects now taught and activities now prescribed, and weave a new and attractive fabric. There is a palpable inconsistency between the fundamental standards of curriculum construction and the vast bulk of secondary-school courses in mathematics that are today most widely followed. Some day a publisher will produce books that will interpret the quantitative aspects of twentieth-century life to the average rather than the exceptional twentieth-century secondary-school pupil, and, if we mistake not, secondary-school courses of study will follow the lead thus taken. Opportunities for useful and constructive innovations are legion.

How about research? This is probably the most abused concept in education. Its great vogue grew out of the emphasis placed on research in American (following the German) universities, where, as everybody knows, there are several hundred men and women who devote their energies primarily if not exclusively to the enlargement of human knowledge rather than to teaching. There is a strong and natural tendency in secondary and even in elementary schools to imitate collegiate procedure. Now it is not often that the frontiers of scientific knowledge are advanced in the physical or chemical laboratories of high schools—even after the pupils have gone home for the day. New and vital interpretations of past events are not

often given out by high-school teachers of history. High-school teachers of Latin do not commonly advance new theories in the interpretation of Lucretius or Juvenal or Petronius or suggest translations of hitherto undeciphered inscriptions. This is quite as it should be and is no indictment whatever of the scholarship or of the value of these teachers in our American scheme of education. It is the business, the sole business, of high-school teachers and, more especially, of elementary-school teachers to pass on the torch to the next generation. Research, therefore, in elementary and secondary schools is confined largely to ways and means for teaching more effectively, whether by changes in curriculum or by changes in method, and of course these two overlap. However, the number of teachers employed in our public schools vastly exceeds the number employed in our colleges. For the most part, their training in research is necessarily more meager than the training of university professors, and their field of activity is infinitely more restricted. Nevertheless, the ideal of research as an end in itself has grown apace. Even the pupils are affected by the contagion until in many instances artificial and laborious methods of self-discovery have replaced easier and more natural methods of reading and normal exposure to knowledge. What is more natural than that research-infected teachers should demand of publishers, if the latter are to qualify among the educationally elect, research departments and independent research activity?

It is our conviction that, with the research staffs of school systems of all sizes already overmanned and in some instances over-active, an attempt on the part of publishers to duplicate this activity would be to gild the lily. To be sure, the publisher must conduct a great deal of research of an informal type. He must gather and summarize courses of study, discriminating as shrewdly as possible between those that are unsatisfactory and temporary and those that are destined to be imitated. He has a splendid opportunity, denied for the most part to all except a handful of the country's leading educators, to visit schools of all kinds, in all places, and at all times, and to draw his own conclusions regarding their needs. He must keep abreast of educational literature or fall by the wayside. He must possess an adequate machinery—a far less formal and imposing

machinery than the sticklers for statistical procedure commonly suppose—for testing his product when in tentative form. But the laboratories into which he properly goes when laboratory work is required are the schools themselves: A publisher's research is largely qualitative; a schoolman's, largely quantitative. Very early the publisher must learn the truth of the old epigram that the chief function of statistical research is to prove to us what we already know. If a publisher cannot determine by inspection the grade level for which a textbook manuscript is suited, he will be helpless with all the word lists in the world at his disposal.

To be sure, the publisher is a logical outlet for the results, whether in textbook form or otherwise, of heavily subsidized experiments, but normally the publisher is not the proper subsidizing agency. That is the function of educational foundations, school departments of research, and authors. The disintegration of the total potential textbook market of today has proceeded so far that few textbooks can be sold successfully under competitive price conditions if to the normal initial cost of composition, artist's work, engraving, and electrotyping there is added an abnormal pre-initial cost of special publisher-paid research. No publisher has behind him the accumulated millions of an educational foundation or even the financial resources of a single large city school system. Any publisher who fails to include in the net selling price of any book any expense directly or indirectly incurred in the publication of that book is headed for the rocks.

Most important, of course, of all the products of co-operative research are the comprehensive reports of investigations into the teaching of various subjects and groups of subjects which are financed by foundations and conducted by committees of leading scholars. Typical of such investigations, or rather outstanding among them, are the report of the Commission on the Social Studies of the American Historical Association, the publication of which has now been begun by Scribner's; the Classical Investigation, published in 1924 by the Princeton University Press; and the Modern Language Investigation, published in 1927-31 by Macmillan. Such investigations have a threefold significance for the publisher: First, they constitute in themselves books which a publisher may produce

and distribute. Second, as notably in the case of the Classical Investigation, they become immediately upon publication detailed guides to authors and publishers as to the selection and the organization of subject matter that will be acceptable in textbooks for many years to come. Third, such an investigation, if conducted on a high plane, is most suggestive to the publisher in his search for new ideas that can be embodied in new books. Any schoolbook publisher, for example, who has failed to read Beard's *A Charter for the Social Sciences in the Schools*¹ and to attempt to translate it into new and better publishing policies has been most neglectful of his opportunities. The student of this brief but important book is certain to classify his own publications with Beard as ideological, utopian, or progressive. He is bound to reflect how he may make his new publications more progressive in the fundamental sense so clearly defined by Beard. If he follows Beard in the latter's analysis of "the climate of American ideas" (pp. 52 ff.), he will find himself grappling with ultimate aims of education that transcend the purely social sciences and unfold to him the possibilities of new books not yet thought of. He will plan books that suit the machine age and that presuppose a vast increase in the importance of leisure.

Do these new possibilities, both in the field of the social studies and in other fields, concern primarily basal textbooks in the accepted sense of the term or curriculum-enriching materials as advocated by Judd at the Detroit meeting of the National Society for the Study of Education in 1931? Undoubtedly both. Whatever measure of prosperity educational publishers may have enjoyed has been the result chiefly of the successful distribution of a relatively small number of books for basal use in class quantities; but, whether we like it or not, Buckingham's view² that from now on publishers are destined to sell fewer copies of more books is probably correct. We have already commented in detail on the diversification and disintegration of the schoolbook market and the contributing causes. The basal textbook

¹ *A Charter for the Social Sciences in the Schools*. Drafted by Charles A. Beard. Report of the Commission on the Social Studies of the American Historical Association, Part I. New York: Charles Scribner's Sons, 1932.

² Expressed in an unpublished address before the Buffalo Conference on Textbook Problems, July 9, 1932.

as an institution is far from dead, but it is in its old age. It will live longer in rural schools and under state adoption than it will live in urban and what publishers call "open" territory. There are unmistakable indications that an important part of the book equipment of the children of tomorrow will be a simpler, juvenile counterpart of the specialized general or trade book of today. The publication of such books will necessarily be more speculative, and, irrespective of their length, which in itself will tend to be greater, such books will carry higher prices than do textbooks as we now know them. The tendency deemed progressive today is to encourage children to delve far more deeply than heretofore into isolated aspects of what we have called subjects, but, if the co-ordination and orientation of these fragments of specialized knowledge is neglected, the curriculum-makers will be responsible. So long as the market for systematic basal textbooks remains large enough to encourage new authorship and new publication, the publishers can continue to contribute their bit to a sound perspective in American educational procedure.

EDUCATIONAL IMPLICATIONS OF A MOBILE POPULATION

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It is well known that the population of this country migrates a great deal from place to place. It is even said that the people of the United States are more mobile than any other people, that the typical American is less likely to live during the major portion of his life in the community in which he was born than is the typical person in any other country. Much of this migration has been caused by a search for greater opportunity of one kind or another, and in many instances the migration has been from the older parts of the country to the newer. In recent decades a great deal of migration from rural to urban communities has taken place, and various minor currents of migration have also been apparent. It is the purpose of this article to indicate by reference to census data the extent to which certain migrations have been taking place and to point out some of their educational and social implications.

The extent of migration of native-born Americans during the past eighty years is shown in Table I. The data indicate some fluctuation in the percentages of native-born persons but in general show a slight net decrease from 1850 to 1890 and an approximately equal net increase from 1890 to 1930. The waves of immigration and the restrictions placed on immigration have definitely influenced these percentages, but this influence is not especially pertinent to the problem at hand.

Column 5 of the table shows that during the eighty-year period the proportion of the population consisting of persons born in a state other than that in which they resided at a particular census interval has stood rather steadily in the neighborhood of one-fifth of the total population. When considered on the basis of the native population (Column 7) rather than on the basis of total population, the percent-

ages of migrants necessarily run somewhat higher. Initial consideration of the data indicating the percentages of migrants among native-born persons might suggest that one could predict rather accurately the proportion of the population representing persons who would at some definite future time be living in states other than their native states. Closer study of these data, however, shows a decrease in the mobility of the native population from 1860 to 1900 and thereafter

TABLE I

TOTAL POPULATION OF UNITED STATES AT EACH CENSUS PERIOD FROM 1850 TO 1930
PERCENTAGE OF NATIVE-BORN PERSONS, AND PERCENTAGES OF TOTAL AND OF
NATIVE POPULATION BORN IN STATES OTHER THAN THAT OF RESIDENCE*

Year	Total Population	Percentage That Native Population Is of Total Population	Percentage of Total Population Born in State of Residence	Percentage of Total Population Born in State Other than State of Residence	Percentage of Total Population Born in Other Places†	Percentage of Native Population Born in State Other than State of Residence
1	2	3	4	5	6	7
1850	19,987,563†	88.8†	67.3	21.3	0.2	24.0
1860	27,489,561†	85.0†	63.8	21.0	0.2	24.7
1870	38,558,371	85.6	65.7	19.9	0.0	23.2
1880	50,155,783	86.7	67.6	19.1	0.0	22.1
1890	62,622,250	85.2	66.9	17.7	0.6	20.8
1900	75,994,575	86.4	68.3	17.8	0.3	20.6
1910	91,972,266	85.3	66.5	18.4	0.4	21.6
1920	105,710,620	86.8	67.2	19.2	0.4	22.1
1930	122,775,046	88.4	67.3	20.7	0.4	23.5

* Data for 1850-1920 are from *Fourteenth Census of the United States Taken in the Year 1920, "Population,"* Vol. II, Table 1, p. 613. Data for 1930 are from *Fifteenth Census of the United States: 1930* (Press Release, March 21, 1932)

† This column represents persons whose state of birth was not reported, those born in outlying possessions or at sea, or American citizens born abroad

‡ White and free colored population.

an increase in mobility. The general settling-up of the country during the earlier period and the somewhat limited transportation facilities are, no doubt, prominent factors in the decrease in mobility during that period. On the other hand, the marked improvement in transportation facilities, the increases in the wealth per capita, and increased acquaintance through education with parts of the country other than that in which one lives are no doubt factors in the increasing mobility of the native population since 1900.

Closer study of the character of migration in this country shows that certain sectional migrations have been important in our his-

TABLE II
MIGRATION OF NATIVE POPULATION EAST AND WEST OF THE MISSISSIPPI RIVER FROM 1870 TO 1930*

CENSUS YEARS	TOTAL NATIVE POPULATION	NUMBER OF PERSONS			PERCENTAGE OF MIGRANTS					
		Born East and Living West of River†	Born West and Living East of River†	Net Gain of West and Loss of East	Percentage of Native Population That Migrated	Percentage Column 3 Is of People Born East of River	Percentage Column 4 Is of People Born West of River	Percentage of Westward Trans-Mississippi Migration	Percentage of Eastward Trans-Mississippi Migration	
I	2	3	4	5	6	7	8	9	10	
1870	32,978,660	2,434,721	135,769	2,298,952	7.8	8.2	3.9	94.7	5.3	
1880	45,475,498	3,510,737	210,359	3,300,378	8.6	9.4	3.3	94.3	5.7	
1890	52,965,719	4,360,516	282,359	4,078,157	8.8	10.1	2.9	93.9	6.1	
1900	63,462,767	4,512,097	318,543	3,993,554	7.7	8.8	3.6	89.7	10.3	
1910	78,095,419	5,276,879	684,773	4,592,106	7.6	8.9	3.6	88.5	11.5	
1920	91,545,463	5,227,850	1,038,905	4,188,945	6.9	7.7	4.4	83.4	16.6	
1930	108,005,719	5,145,999	1,648,832	3,497,167	6.3	...	...	75.7	24.3	

* The data for the years 1870-1930 are from *Fourteenth Census of the United States Taken in the Year 1920*, "Population," Vol. II, Table 2, p. 613. The data for 1930 are adapted from data presented in *Fifteenth Census of the United States: 1930* (Press Release, March 21, 1932).

† The figures in this column do not include persons whose state of birth was not reported, persons born in outlying possessions or at sea, or American citizens born abroad.

‡ In this table Minnesota and Louisiana are treated as lying west of the Mississippi River.

tory, particularly the migration to the west. Table II indicates that this migration is still in progress but that it is beginning to be significantly counteracted by an eastward migration. The table indicates the steady and significant increase from 1870 to 1910 in the number of persons migrating westward across the Mississippi River and the slight numerical decrease in the number of westward migrants since 1910. It can also be seen from the table that from 1870 to 1930 the number of persons migrating eastward across the Mississippi River increased more than tenfold and that the number of such migrants has more than doubled since 1910. The net result is that the percentage of westward migrants across the Mississippi River decreased markedly from 1920 to 1930. No doubt, much of the eastward migration has been caused by the movement from rural to urban areas. Westward migration, however, still greatly exceeds eastward migration when considered either in terms of numbers (Column 5) or in terms of the percentages of persons born on one side of the river but living on the other side (Columns 7 and 8). Hence, it can be said that the westward migration in this country is still in progress, although the westward movement is gradually being counteracted by an increasing stream of eastward migration.

For some time a rather significant migration between the North and the South has been taking place. The extent and the direction of this migration are shown in Table III. The data indicate a steady increase in the amount of migration in both directions but an excess of south to north migration over north to south migration in every census interval listed (Column 5). The intersectional migrations in the two directions were more nearly equal in 1910 than at any other interval included in the table. The greater northward migration from 1870 to 1900 is perhaps partly due to the after-effects of the Civil War, whereas various economic aspects of the more distinctly rural-to-urban migration undoubtedly account in large measure for the excess of northward migration over southward migration since 1900. In 1930 the number of persons representing the net gain of the North and loss of the South was more than three times the corresponding number in 1920. According to the last census, nearly two-thirds of the intersectional migration between North and South was northward migration. Moreover, the percentage of all persons born

TABLE III
MIGRATION OF NATIVE POPULATION BETWEEN NORTH AND SOUTH FROM 1870 TO 1930*

CENSUS YEAR	TOTAL NATIVE POPULATION BORN IN NORTH OR SOUTH	NUMBER OF PERSONS			PERCENTAGE OF MIGRANTS					
		Born in North and Living in South	Born in South and Living in North	Net Gain of North and Loss of South	Percentage of Native Population That Migrated	Percentage of People Born in North	Percentage of People Born in South	Percentage of Migrants Who Moved North	Percentage of Migrants Who Moved South	
I	2	3	4	5	6	7	8	9	10	
1870	32,589,747	208,298	1,950,853	752,555	4.1	1.5	8.3	77.9	22.1	
1880	42,730,687	475,790	1,112,808	639,018	3.7	1.8	6.6	70.1	29.9	
1890	51,771,684	635,594	1,135,620	500,026	3.4	2.0	5.7	64.1	35.9	
1900	63,467,632	1,021,450	1,295,853	274,403	3.7	2.6	5.3	55.9	44.1	
1910	75,189,257	1,449,229	1,527,107	77,878	4.0	3.1	5.3	51.3	48.7	
1920	87,148,028	1,721,349	2,151,549	430,200	4.4	3.2	6.5	55.6	44.4	
1930		1,878,192	3,297,329	1,419,137	...	...	...	63.7	36.3	

* The data for the years 1870-1920 are from *Fourteenth Census of the United States Taken in the Year 1920*, "Population," Vol. II, Table 3, p. 613. The data for 1930 are adapted from data presented in *Fiftieth Census of the United States 1930* (Press Release, March 21, 1932).
 "North" means New England, the Middle Atlantic, the East North Central, and the West North Central divisions. "South" means the South Atlantic, the East South Central, and the West South Central divisions.

in the South who migrate northward has consistently been larger than the percentage of persons born in the North who migrate southward (Columns 7 and 8). It will no doubt occur to the reader that much of this northward migration in recent years has been due to a migration of southern negroes to northern cities. While this statement is probably correct, it is not brought out by the data presented here as these data are not classified on a racial basis.

In Table IV are given data showing by states the proportions of the total number of persons born in a state other than the state of residence. The range in the percentages is from less than 5 to more than 70. The ranges for the different census years listed are as follows: 1900, from 4.1 per cent in South Carolina to 70.4 per cent in Oklahoma; 1910, from 4.9 per cent in North Carolina to 65.9 per cent in Oklahoma; 1920, from 6.2 per cent in North Carolina to 60.1 per cent in Wyoming; 1930, from 7.8 per cent in South Carolina and Maine to 57.5 per cent in Wyoming. It is interesting to note here that the lowest percentage of persons born outside the state of residence nearly doubled from 1900 to 1930 (4.1 per cent in 1900 compared with 7.8 per cent in 1930). In seventeen states the percentages of the total population born in other states were smaller in 1930 than in 1920. These states fall into four groups.

Nine of the eleven agricultural states between the Mississippi River and the Rocky Mountains constitute one group. In Louisiana and Missouri, the two states in this area not included, the differences in the percentages for 1920 and 1930 (0.4 and 0.6) are too small to warrant extended comment, although it might be noted that Missouri has the highest percentage of urban population of any of the eleven states and from this standpoint is the least typical of the group.

A second group comprises certain of the newer states: Montana, Idaho, Wyoming, Colorado, Washington, and Oregon. The amount of change in the case of Oregon is insignificant. The percentages of persons born in other states in the case of the other five states of this group have varied roughly from 45 to 60 during the period studied. These percentages are much higher than those shown for the older states farther east. These proportions were approached at an earlier time in Nebraska, Kansas, and the Dakotas, and one might suppose

TABLE IV
PERCENTAGES WHICH PERSONS BORN IN STATES OTHER THAN THAT OF
RESIDENCE WERE OF THE TOTAL POPULATION IN EACH
DECADE FROM 1900 TO 1930*

STATE	PERCENTAGE OF POPULATION BORN IN OTHER STATES			
	1900	1910	1920	1930
1	2	3	4	5
United States	17.8	18.4	19.2	20.7
District of Columbia	49.6	49.7	55.8	55.6
New England:				
Maine	5.3	6.7	7.6	7.8
New Hampshire	18.9	19.2	20.8	21.9
Vermont	13.9	14.7	15.5	16.5
Massachusetts	14.3	12.9	12.6	12.0
Rhode Island	18.4	17.5	17.0	17.1
Connecticut	16.6	15.7	17.5	19.1
Middle Atlantic:				
New York	6.9	7.5	8.3	10.9
New Jersey	20.3	20.7	22.5	26.0
Pennsylvania	7.7	7.4	8.5	10.0
East North Central:				
Ohio	12.0	12.7	17.1	20.5
Indiana	19.6	18.6	19.1	21.3
Illinois	19.6	17.7	17.8	20.5
Michigan	16.8	15.5	19.0	23.5
Wisconsin	11.7	11.0	11.8	12.9
West North Central:				
Minnesota	19.7	19.4	20.9	19.7
Iowa	26.9	23.6	22.6	20.1
Missouri	27.2	25.0	24.1	24.7
North Dakota	30.0	37.6	31.6	26.6
South Dakota	37.6	43.6	38.8	33.7
Nebraska	39.8	34.7	31.1	27.3
Kansas	48.2	42.8	38.5	35.3
South Atlantic:				
Delaware	22.2	23.4	26.5	27.5
Maryland	11.4	12.5	16.3	19.8
Virginia	7.1	9.2	12.7	13.7
West Virginia	17.5	18.8	19.4	20.0
North Carolina	4.4	4.9	6.2	9.9
South Carolina	4.1	5.1	6.5	7.8
Georgia	8.6	8.5	9.6	10.3
Florida	30.2	32.5	36.1	44.4
East South Central:				
Kentucky	9.7	9.4	10.3	11.3
Tennessee	13.1	13.1	13.8	16.1
Alabama	12.8	12.0	11.5	11.7
Mississippi	13.9	12.2	10.2	10.3

* The data for 1900-1920 are from *Fourteenth Census of the United States Taken in the Year 1920*, "Population," Vol. II, Table 13, p. 620. The data for 1930 are adapted from *Fifteenth Census of the United States: 1930* (Press Release, March 21, 1932) and from *Population Bulletin* (Second Series), *United States Summary*, Table 32, p. 24.

TABLE IV—*Continued*

STATE	PERCENTAGE OF POPULATION BORN IN OTHER STATES			
	1900	1910	1920	1930
1	2	3	4	5
West South Central.				
Arkansas.	33.8	31.4	30.4	26.6
Louisiana.	11.4	11.5	12.4	12.8
Oklahoma.	70.4	65.9	57.0	49.2
Texas.	27.2	23.3	20.8	19.4
Mountain.				
Montana.	45.9	47.3	50.1	44.5
Idaho.	54.5	58.4	55.6	49.2
Wyoming.	59.7	57.7	60.1	57.5
Colorado.	54.0	53.8	52.4	49.5
New Mexico.	19.4	36.0	33.3	34.3
Arizona.	36.7	36.6	41.2	46.1
Utah.	14.5	16.2	16.5	15.5
Nevada.	33.2	48.5	46.2	50.6
Pacific.				
Washington.	51.3	53.3	48.8	45.9
Oregon.	43.8	49.0	47.8	47.6
California.	29.9	36.3	39.8	45.4

that these five or six newer states, which too have prominent agricultural interests, will repeat the history of Kansas, Nebraska, and the Dakotas. Hence, a decrease is to be expected in the percentages of residents of these six states who were born in other states.

A comparison of the section of the table relating to the Mountain states indicates that Utah occupies a unique position among those states. The percentage of the people born in other states has consistently been lower in Utah than in any other of the Mountain states, and with one exception the difference between Utah and the other states has been marked. No doubt a combination of factors has been at work in giving Utah less drawing power for persons born in other states than have the states in the neighboring Mountain regions. One such factor has probably been the Mormon religion and culture, with the prejudice which people of other beliefs and traditions have shown toward it.

Massachusetts presents a situation somewhat different from that in the other states which in 1930 show decreases in the percentages of persons born in other states. Rhode Island is irregular. Massachusetts and Rhode Island differ from the remainder of New Eng-

land and from the remainder of the country east of the Mississippi River. The change in Massachusetts is small, but its steadiness throughout the period studied gives the decrease some significance. A possible explanation may be the passing of certain industries out of this region, resulting in a decrease in power to attract persons from other states.

Fifteen states show steady increases during the four census periods in the percentages of the total population born in other states, and in ten additional states there have been steady increases in the last three census periods. In 1930 over 40 per cent of the persons in each of eleven states were born in a state other than that of residence. California headed the list, 2,577,000 persons born in other states residing within her borders.¹ This number is more than one-third of the total number of such persons in the eleven states. In each of seven additional states more than a million of the residents were born in other states. These seven states in order of descending rank, after California, are Illinois, New York, Ohio, Oklahoma, Michigan, Texas, and New Jersey.

The facts given in the preceding paragraphs indicate that during recent decades there has been a decided increase in the mobility of our population as a whole, although the reverse has been true of certain states, largely new or agricultural states. When it is borne in mind that the percentages for the later decades are, except in rare instances, based on greater numbers of persons than the percentages for the earlier decades, the increasing mobility of the population in the last decade or two becomes more apparent. It should also be noted in this connection that the migration here shown does not include migration within a state. So long as a person has not gone outside the state in which he was born, his migrations are not shown in these figures. Neither do the data take into account persons who migrated successively from state to state outside the state of birth nor persons who lived for a time outside the state of birth but were again living in the native state at the time of the census enumeration. Clearly, if the census had taken into account migrations of this character, the mobility of the population would be greater than is indicated by the foregoing data.

¹ 1,935,867 of the 5,677,251 people living in California in 1930 were born in the state, whereas only 175,712 persons born in California were living in other states.

From the standpoint of the social and economic burden of rearing and of educating children, the age at which persons most commonly migrate is of considerable importance, particularly in the case of the rural-urban migration, which has been significant in the growth of American cities. An attempt was therefore made to secure data concerning the ages of the native white persons in the larger cities for 1920 and 1930. Table V presents these data for seventeen cities. In all but three of the cities listed, namely, Boston, Newark, and Philadelphia, the number of persons fifteen to twenty-four years old in 1930 was greater than the number of persons five to fourteen years old in 1920. Moreover, in ten of the seventeen cities the number of persons twenty-five to thirty-four years old in 1930 was greater than the number fifteen to twenty-four years old in 1920, and in San Francisco and Los Angeles the number of persons thirty-five to forty-four years of age in 1930 was greater than the number twenty-five to thirty-four years of age in 1920. Clearly, these increases are due to migrations of persons within the age groups considered. Since the factor of immigration is not involved and since the increases described are found in most of the cities listed, it is clear that the migrants have come from smaller communities.

In the age groups considered, the net migration to the cities listed (the number migrating to the cities minus the number migrating from the cities) has in reality been greater than is indicated by the difference between the figures for one age group in 1920 and the next older group in 1930 for the reason that the figures given for a particular age group in 1930 (twenty-five to thirty-four years of age, for example) do not take into account persons who were listed in 1920 in the next younger group (fifteen to twenty-four years of age) but who died before the 1930 census enumeration. Net migration has brought the 1930 figure up to the 1920 level of the preceding age group and then exceeded that level. Here it might also be noted that Boston, Newark, and Philadelphia, which showed no increases for the 15-24 age group in 1930 over the 5-14 age group in 1920 nor for the 25-34 age group in 1930 over the 15-24 age group in 1920, showed smaller numerical decreases between 1920 and 1930 from the younger to the older age groups within the range of these ages than within the other age groups. Hence, net migration to these cities more nearly offset mortalities within these age groups than

TABLE V

DISTRIBUTION, ACCORDING TO AGE IN 1920 AND 1930, OF THE NATIVE WHITE
POPULATION OF CITIES WITH POPULATIONS OF OVER 400,000
IN 1930, EXCEPT WASHINGTON, D.C.*

CITY AND YEAR	NUMBER OF PERSONS					
	Under 5 Years Old	5-14 Years Old	15-24 Years Old	25-34 Years Old	35-44 Years Old	45 Years Old or Over
Baltimore:						
1920	60,872	108,432	103,243	93,358	69,777	105,444
1930	52,067	117,386	111,987	97,887	81,607	124,802
Boston:						
1920	69,037	118,419	96,617	73,920	52,210	80,132
1930	60,228	123,405	114,209	84,804	58,038	87,668
Buffalo:						
1920	51,458	85,411	73,659	67,595	44,601	57,488
1930	45,901	98,225	87,345	73,003	60,329	75,368
Chicago:						
1920	264,883	444,491	346,544	321,911	195,641	207,051
1930	233,255	508,990	507,946	412,878	303,588	306,077
Cincinnati:						
1920	28,710	56,671	57,790	61,332	49,788	73,731
1930	28,899	58,681	66,444	62,438	57,601	93,021
Cleveland:						
1920	85,597	133,681	97,174	89,749	57,039	58,893
1930	63,575	150,985	139,451	95,996	69,479	77,669
Detroit:						
1920	107,971	138,844	130,556	138,473	75,589	70,880
1930	132,556	244,649	207,714	195,662	137,879	121,736
Los Angeles:						
1920	34,012	67,810	68,361	81,118	71,185	111,391
1930	58,741	125,605	149,918	174,997	149,047	232,894
Minneapolis:						
1920	35,144	55,919	59,208	60,421	35,658	41,674
1930	33,784	74,049	75,717	71,379	58,924	64,626
Milwaukee:						
1920	45,611	77,389	71,860	66,811	40,452	42,300
1930	46,333	92,884	97,553	86,843	64,645	70,934
Newark:						
1920	42,828	73,378	54,090	43,077	29,092	37,624
1930	32,036	73,155	67,405	44,384	30,321	39,817
New Orleans:						
1920	24,165	51,748	54,099	46,442	35,532	47,260
1930	26,925	57,148	60,023	56,428	43,701	63,685
New York City:						
1920	545,455	947,640	692,456	524,510	340,083	413,246
1930	502,296	1,061,441	995,369	723,037	472,289	535,547
Philadelphia:						
1920	168,271	290,293	238,020	208,693	151,968	232,064
1930	128,962	297,081	282,598	218,430	171,563	260,485

* The data for 1920 are adapted from *Fourteenth Census of the United States Taken in the Year 1920*, "Population," Vol. II, Tables 15, 16, and 17, pp. 288-370. The data for 1930 are adapted from *Fifteenth Census of the United States: 1930*, "Population," Vol. III, Parts 1 and 2, Table 12 (pages varying according to state in which city is located).

TABLE V—*Continued*

CITY AND YEAR	NUMBER OF PERSONS					
	Under 5 Years Old	5-14 Years Old	15-24 Years Old	25-34 Years Old	35-44 Years Old	45 Years Old or Over
Pittsburgh:						
1920	59,094	101,735	82,719	71,128	51,316	63,579
1930	51,950	113,248	108,388	81,786	63,260	86,414
St. Louis:						
1920	54,456	110,717	115,811	116,476	88,600	112,808
1930	51,576	106,423	126,865	118,063	98,714	144,499
San Francisco:						
1920	30,678	59,990	65,609	71,224	57,085	63,018
1930	28,659	65,123	83,561	88,119	72,091	97,720

within other age groups. Similarly, in the case of Buffalo, Cleveland, and Pittsburgh, the decrease between the 15-24 age group in 1920 and the 25-34 age group in 1930 was smaller than the decrease between the 25-34 age group in 1920 and the 35-44 age group in 1930.

The data in Table V and the foregoing discussion indicate that more of the persons who migrated between 1920 and 1930 to the cities listed were in the early years of mature life (fifteen to thirty-four) than were in any other comparable age span. This statement holds even for Los Angeles, although in that city an unusually large number of persons in the next older age group were added to the population. Incidentally, in only five of the seventeen cities were the numbers of native-born persons under five years of age in the population as large in 1930 as the corresponding number in 1920, although in each instance the total native population was considerably larger in 1930 than in 1920. This fact has a distinct bearing on the future educational needs of these cities. However, a consideration of this point does not fall within the scope of the present article.

The age distribution of the migrants to the cities studied is probably comparable to that of the intersectional migrants and of the interstate migrants. This conclusion means that, in the case of a large and apparently increasing proportion of the native population, the community which carries the social and economic burden of rearing and educating an individual is not the community in which he lives his mature life and to which he makes his social and economic contribution. The fact that much of the migration has been from

rural to urban communities means, of course, that rural communities have to a considerable extent paid the bills for rearing and educating the future productive citizens of the urban community. As a remedy for this situation, measures might be taken to enlarge the unit for the support of schools and similar institutions in order that urban communities, or other communities to which there is considerable migration, would bear a larger share of the burden of rearing and educating their future citizens than is at present carried by such communities. Indeed, in a society characterized by a high degree of mobility of population, no community which is properly concerned with its own well-being and safety can be indifferent to the education of youth in every other community.

There is another significant implication of the data presented in this article. As a person moves from a small, simple community to a larger and more complex community, more education is required to enable him to participate effectively in the social and economic life of the larger district. In the smaller, simpler community, life is comprehensible—and more or less directly so. By observation and participation a person arrives at some understanding of the more fundamental economic, social, and political problems of his community and learns to adjust himself to them. The larger, more complex, and more highly integrated society (one factor in the production of which is mobility of population) must be comprehended vicariously if it is to be comprehended at all. Thus, an expanded educational program, and one giving a great deal of attention to the problems of guidance, becomes essential in both the larger and the smaller communities. There can be little doubt that the mobility of population in this country in recent years is having a marked influence both on the expansion of educational opportunities and on the enrichment of the curriculum.

THE LAW GOVERNING THE CORPORAL PUNISHMENT OF PUPILS

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Teachers and school administrators are frequently confronted with situations involving the control, management, and correction of pupils. The matter of discipline has always been a delicate problem for the teacher to handle. In dealing with incorrigible and unruly pupils, many teachers have resorted to the use of corporal punishment. However, corporal punishment results in wounded parental feelings and in many instances is the basis of strife and litigation. It is advantageous, therefore, for the teacher to know the legal limits of his authority in administering corporal punishment.

RELATION OF TEACHER TO PUPIL

By virtue of his position, the teacher has authority over a pupil analogous to that which a parent has over his child. In all matters pertaining to that particular phase of the child's life which is intrusted to the guidance of the teacher, including the power and duty of correction, the teacher stands *in loco parentis*.¹ The relation of teacher to pupil has been clearly defined by the Supreme Court of Alabama in the following words:

We will not undertake to enlarge upon the rule of law relative to the right of a schoolmaster to administer punishment upon a pupil for misconduct. The rule has been many times stated. By law, as well as immemorial usage, a schoolmaster is regarded as standing *in loco parentis* and, like the parent, has the authority to moderately chastise pupils under his care. One standing *in loco parentis*, exercising the parent's delegated authority, may administer reasonable chastisement to a child, or pupil, to the same extent as the parent.²

RIGHT OF ADMINISTRATORS TO PUNISH PUPILS

In some instances the question may arise whether the superintendent, the principal, or the supervisor has the same right as a

¹ *Lander v. Seaver*, 32 Vt. 114, 76 Am. Dec. 156.

² *Roberson v. State*, 116 So. (Ala.) 317.

teacher to inflict corporal punishment upon a pupil. It might be conceded by the courts that such administrators have the right to chastise pupils in small schools where they are acquainted with the behavior, the habits, and the characteristics of the pupils. In the larger schools, however, the conditions are different, and an administrator might be denied the authority granted a teacher to inflict corporal punishment.

In what seems to be the only case in point,¹ it was held that a superintendent had no authority to inflict corporal punishment upon a pupil. A suit for assault and battery had been brought after the superintendent had inflicted corporal punishment upon the pupil in one of the city high schools (with sixty teachers) which he was visiting. The court rendered a decision against the superintendent on the ground that, for purposes of administering corporal punishment, the superintendent could not be considered a teacher.

We do not think appellee was a "teacher" within the meaning of the law that authorizes a teacher to chastise his pupil. The teacher the law has in mind, we think, is one who for the time being is *in loco parentis* to the pupil; who, by reason of his frequent and close association with the pupil, has an opportunity to know about the traits which distinguish him from the other pupils; and who, therefore, can reasonably be expected to more intelligently judge the pupil's conduct than he otherwise could, and more justly measure the punishment he deserves, if any.

RIGHT OF DE FACTO TEACHERS TO CHASTISE PUPILS

The mere fact that a teacher does not meet all the requisites of a qualified teacher does not deprive him of the authority to chastise pupils when such chastisement is deemed necessary. The courts maintain that, if a teacher is not authorized to teach school because he does not have a proper certificate to teach or because in some other way he fails to measure up to the legal requirements, his power of discipline as a *de facto* teacher is the same as if he possessed such certificate and were a teacher *de jure*.

In a New Hampshire case² a teacher who had entered his teaching duties before receiving the required certificate was forced to resort to corporal punishment as a means of ousting a pupil from the school-room when a mere verbal order failed in removing the pupil from the

¹ *Prendergast v. Masterson*, 196 S.W. (Tex.) 246

² *Kidder v. Chellis*, 59 N.H. 473.

premises. The court upheld the action of the teacher in spite of the fact that the teacher secured no certificate until after the punishment had been administered. The reason for rendering such decision is found in the following statement of the court:

Although not a public teacher by legal appointment, he was a teacher in fact, and his authority to govern the school could not be contested by those who sought to avail themselves of its advantages. By placing their children under his instruction, parents, for the time being, invested him with the prerogatives of school government and conferred upon him the power to do what was reasonably necessary to maintain order and render effective his instruction to the school.

LIMITS OF PERMISSIBLE PUNISHMENT

In states in which corporal punishment is permissible, the question of the extent to which such punishment may be legally administered by the teacher arises. It is difficult to determine precisely what constitutes legal and illegal corporal punishment, since the courts do not agree.

According to one line of decisions, if no lasting or permanent injury is inflicted upon the pupil, the teacher will not be held liable for excessive punishment administered in good faith.¹ A case which illustrates this principle is that of *State v. Pendergrass*,² which was decided by the Supreme Court of North Carolina in 1837. In rendering a decision in an action against a teacher for whipping a pupil so severely as to leave marks on the child's body for a number of days following the chastisement, the court expressed what it considered the proper rule of law:

The line which separates moderate correction from immoderate punishment can only be ascertained by reference to general principles. The welfare of the child is the main purpose for which pain is permitted to be inflicted. Any punishment, therefore, which may seriously endanger life, limb, or health, or shall disfigure the child, or cause any other injury, may be pronounced in itself immoderate, as not only being unnecessary for, but inconsistent with, the purpose for which correction is authorized. But any correction, however severe, which produces temporary pain only, and no permanent ill, cannot be so pronounced, since it may have been necessary for the reformation of the child, and does not

¹ *State v. Pendergrass*, 19 N.C. 365, 31 Am. Dec. 416; *Commonwealth v. Seed*, 5 Pa. L.J. Rep. 78; *Heritage v. Dodge*, 64 N.H. 297, 9 Atl. 722, *Boyd v. Slate*, 88 Ala. 169, 7 So. 268, 16 Am. St. Rep. 31.

² *State v. Pendergrass*, 19 N.C. 365, 31 Am. Dec. 416

injuriously affect its future welfare. We hold, therefore, that it may be laid down as a general rule, that teachers exceed the limits of their authority when they cause lasting mischief; but act within the limits of it when they inflict temporary pain.

When the correction administered is not in itself immoderate, and therefore beyond the authority of the teacher, its legality or illegality must depend entirely, we think, on the *quo animo* with which it was administered. Within the sphere of his authority, the master is the judge when correction is required and of the degree of correction necessary; and like all others intrusted with a discretion, he cannot be made penally responsible for error of judgment but only for wickedness of purpose. The best and wisest of mortals are weak and erring creatures and, in the exercise of functions in which their judgment is the guide, cannot be rightfully required to engage for more than honesty of purpose and diligence of exertion. His judgment must be *presumed* correct, because he is *the judge*, and also because of the difficulty of proving the offense, or accumulation of offenses, that call for correction; of showing the peculiar temperament, disposition, and habits, of the individual corrected; and of exhibiting the various milder means that may have been ineffectually used before correction was resorted to.

But the master may be punishable when he does not transcend the powers granted, if he grossly abuse them. If he use his authority as a cover for malice, and under pretense of administering correction, gratify his own bad passion, the mask of the judge shall be taken off, and he will stand amenable to justice, as an individual not invested with judicial power.

Whether or not a teacher was actuated by malice in punishing a pupil is a matter of fact to be determined by the jury. The Supreme Court of Alabama made the following distinction:

The more correct view, however, and the one better sustained by authority, seems to be that, when, in the judgment of reasonable men, the punishment inflicted is immoderate or excessive, and a jury would be authorized, from the facts of the case, to infer that it was induced by legal malice, or wickedness of motive, the limit of lawful authority may be adjudged to be passed. In determining this question, the nature of the instrument of correction used may have a strong bearing on the inquiry as to motive or intention.¹

According to the second line of decisions, it is not sufficient to show that the teacher acted in good faith without malicious intent. If, in the opinion of reasonable men, the punishment was unreasonable and excessive, the teacher is guilty of assault, even though no

¹ *Boyd v. State*, 88 Ala. 169, 7 So. 268, 16 Am. St. Rep. 31.

malice was apparent.¹ When there is doubt as to the reasonableness of the punishment, the teacher is usually given the benefit of the doubt. A decision by the Supreme Court of Vermont exemplifies this line of reasoning:

Hence the teacher is not to be held liable on the ground of excessive punishment, unless the punishment is clearly excessive and would be held so in the judgment of reasonable men. If the punishment be thus *clearly* excessive, then the master should be held liable for such excess, though he acted from good motives in inflicting the punishment, and in his own judgment considered it necessary and not excessive. But if there is any reasonable doubt whether the punishment was excessive, the master should have the benefit of the doubt.²

Where moderation of punishment is a limiting factor, the fact that an excessive beating may have had a good effect on a pupil and the school does not relieve the teacher of liability. In a North Carolina case³ in which an angered teacher had brought about a better state of discipline in his school by immoderately whipping a pupil, the court well defined the principle:

The good effect the chastisement of the prosecutor had upon the discipline of the school was manifestly irrelevant. Suppose the defendant had grievously wounded the prosecutor, or disfigured or maimed him, would such evidence be competent, and, if not in such a case, why should it be if the punishment was excessive and inflicted maliciously? The law does not tolerate evil that good may come. A teacher by his very excesses may inspire terror in his pupils, and thus subdue them to his will and authority; but the law will not excuse his cruel acts for the sake of good discipline in his school.

Although, in general, a teacher is restricted to the infliction of only moderate punishment, in certain cases he may be allowed to employ more violent measures if the circumstances necessitate such action. Such was the case when a pupil over seventeen years of age and larger in size and weight than the teacher came to school armed with a pistol and threatened to shoot the teacher when he asked for the gun. The court upheld the teacher for using a club for the purpose of dis-

¹ *Lander v. Seaver*, 32 Vt. 114, 76 Am. Dec. 156, *Sheehan v. Sturges*, 53 Conn. 481, 2 Atl. 841; *Vanvactor v. State*, 113 Ind. 276, 15 N.E. 341, 3 Am. St. Rep. 645; *Patterson v. Nutter*, 78 Me. 509, 7 Atl. 273, 57 Am. Rep. 818, *Hathaway v. Rice*, 19 Vt. 102, *Commonwealth v. Randall*, 4 Gray (Mass.) 36; *Anderson v. State*, 40 Tenn. 455.

² *Lander v. Seaver*, 32 Vt. 114, 76 Am. Dec. 156.

³ *State v. Thornton*, 136 N.C. 610, 48 S.E. 602.

arming the pupil and held that the punishment administered was not excessive in that particular instance. In rendering a decision in favor of the teacher, the court said:

If the force used was not excessive, and, in our opinion, it was not, then appellant, instead of being punished, should be commended in his efforts to maintain obedience, not only to the rules of his school, but to the laws of the state. That the pupil should have been punished for carrying a deadly weapon into the school in violation of the rules is, we think, beyond question.¹

It is shown by the foregoing case that, when a teacher acts in good faith without malice or ill intent, rather violent measures of punishment may be employed if circumstances necessitate such action. It should be noted, however, that courts do not uphold a teacher for inflicting corporal punishment, regardless of the gravity of the case, if it be clearly shown that the teacher's intent is to inflict immoderate chastisement. Such was the reasoning of the court in a Texas case² in which a boy was acquitted on a charge of homicide after he had inflicted fatal wounds with a penknife upon a teacher who was about to administer immoderate punishment. The acquittal was based on the fact that the boy acted within his rights to protect himself from undue punishment.

PUPILS ASSUMED TO BE SUBJECT TO PUNISHMENT

Cases have arisen in which the plaintiffs have maintained that they were not subject to punishment because they did not fall within the category of regular pupils. For instance, in the case of *Dodd v. State*³ a teacher was justified in whipping a boy for misconduct even though the boy claimed that he had stopped school prior to the whipping. The fact that the teacher had had no notice that the pupil had stopped school entitled him to assume that the boy was a regular pupil. Consequently, he had authority to administer such punishment as the orderly conduct of the school required.

In an Iowa case⁴ action was brought against a teacher for whipping a pupil on the ground that the pupil was past twenty-one years of

¹ *Metcalf v. State*, 21 Tex. App. 774, 17 S.W. 142.

² *Dill v. State*, 87 Tex. Crim. App. 49, 219 S.W. 481.

³ *Dodd v. State*, 94 Ark. 297, 126 S.W. 834.

⁴ *State v. Mizner*, 45 Ia. 248, 24 Am. Rep. 769.

age. Very likely the plaintiff assumed that, since at common law the legal power of a parent over his child ceases when the child becomes twenty-one years of age and since a teacher stands *in loco parentis*, a teacher has no more authority to punish an adult than has a parent. An opposite conclusion, however, was reached by the court. The reasoning of the court in this respect, as shown by the following statement, seems logical and well founded:

A pupil over twenty-one years of age becomes a pupil only of his own voluntary act. If he does so, and thus of his own will creates the relation of teacher and pupil, and claims privileges and advantages belonging only to those under age, he thereby waives any privilege which his age confers.

REFUSAL TO OBEY RULES AND REGULATIONS

It has been held that a teacher cannot chastise a pupil in order to compel him to do something which his parent has requested that he be excused from doing. The teacher may, however, be justified in refusing to permit the attendance of a pupil whose parent will not consent that he shall obey the rules of the school. In a Wisconsin case¹ a father had directed his child, in attendance at a public school in Wisconsin, to pursue only certain studies selected by the father from those required or permitted by law to be taught therein and had forbidden the child to pursue geography. The father's order was known to the teacher of the school, and it was held that the teacher was not authorized to inflict corporal punishment upon the child for the purpose of compelling him to pursue the study forbidden by the father. In rendering a decision against the teacher for whipping the pupil, the court defined the authority of the teacher in the following manner:

We see no reason for holding that the views of the teacher must prevail and that she has the right to compel obedience to her orders by inflicting corporal punishment upon the pupil. The statute gives the school board power to make all needful rules and regulations for the organization, gradation, and government of the school, and power to suspend any pupil from the privileges of the school for non-compliance with the rules established by them or by the teacher with their consent.

According to this decision, a teacher has the power of expulsion if corporal punishment is not permissible. If, however, a pupil refuses

¹ *Morrison v. Wood*, 35 Wis 59

to leave the school, the teacher may use bodily force in removing the pupil from the school premises. In a New Hampshire school a pupil refused to pursue a course in declamation and remained in school after he had been verbally expelled, whereupon the teacher used bodily force in removing the pupil from the building and was upheld by the court.¹

PUNISHMENT FOR MISDEMEANORS OUTSIDE THE SCHOOL

The courts hold that teachers have the right to administer corporal punishment on pupils for misdemeanors committed away from the school building and after school hours provided it can be clearly shown that such misdemeanors have a specific bearing on the general conduct and discipline of the school.²

In one of the early cases³ it was shown that a young boy had returned to his home about an hour after the close of school and, while driving his father's cow from the pasture by the teacher's house, called the teacher "old Jack Seaver." The court sustained the action of the teacher in administering corporal punishment on the pupil at school on the day following the insulting remark. In a more recent case⁴ involving principles similar to those in the foregoing case, a court held that a teacher was not liable for having punished a boy who, after reaching his home yard, abused small girls returning from school. The teacher had received a complaint at the school from the mother of two small girl pupils that they had been frequently abused by two boys. The boys admitted guilt and were lightly whipped by the teacher, whereupon the mother of one boy brought action against the teacher for assault and battery. In upholding the teacher in his action, the court quoted with approval the following paragraph:

The authority of a teacher is not confined to the schoolroom or grounds, but he may prohibit and punish all acts of his pupils which are detrimental to the

¹ *Kidder v. Chellis*, 59 N.H. 473.

² *Lander v. Seaver*, 32 Vt. 114, 76 Am. Dec. 156, *O'Rourke v. Walker*, 102 Conn. 130, 128 Atl. 25, 41 A.L.R. 1308. See also *Burdick v. Babcock*, 31 Ia. 562; *State v. District Board of School Dist. No. 1*, 135 Wis. 619, 116 N.W. 232, 16 L.R.A. (N.S.) 730; *Mangum v. Keith*, 147 Ga. 603, 95 S.E. 1; *Deskins v. Gose*, 85 Mo. 485; *Jones v. Cady*, 132 Mich. 13, 92 N.W. 495, 62 L.R.A. 160; *Balding v. State*, 23 Tex. App. 172, 4 S.W. 579.

³ *Lander v. Seaver*, 32 Vt. 114, 76 Am. Dec. 156.

⁴ *O'Rourke v. Walker*, 102 Conn. 130, 128 Atl. 25, 41 A.L.R. 1308.

good order and best interests of the school, whether such acts are committed in school hours or while the pupil is on his way to or from school or after he has returned home.¹

LEGISLATIVE RESTRICTIONS

The extent to which corporal punishment may be inflicted upon pupils is determined in a few instances by legislative enactment.² New York, Minnesota, and Texas require that corporal punishment be administered with "reasonableness." One state, New Jersey, has a detailed statutory provision forbidding the use of corporal punishment:

No principal, teacher, or other person employed or engaged in any capacity in any school or educational institution, whether public or private, shall inflict or cause to be inflicted corporal punishment upon any pupil attending such school or institution, and every resolution, by-law, rule, ordinance, or other act of authority heretofore or hereafter passed, adopted, approved, made, or given by any person or persons whomsoever, natural or artificial, permitting or authorizing corporal punishment to be inflicted upon any pupil attending or that may attend any school or educational institution shall be henceforth void and of no force or effect.³

The courts maintain that, when the limit of punishment which a teacher may inflict upon a pupil is set by statute, that limit may not be exceeded although the pupil remains unsubdued. For instance, in the case of *Whitley v. State*⁴ it was shown that a boy was punished for carrying a small bottle of brandy cherries to the school and dividing it among the other pupils. The boy counted aloud the blows as they were given and was told that the whipping would continue until the counting ceased. Consequently, he was given an immoderate amount of punishment before being subdued. In holding the teacher liable, the court made the following statement:

In controlling him, he cannot exceed the limit fixed by the statute which is that the correction must be moderate, and a punishment may greatly exceed this limit without subduing the spirit or endurance of the pupil upon whom it is inflicted.

¹ Floyd R. Mechem, *Public Offices and Officers*, p. 731 Chicago. Callaghan & Co., 1890.

² Note, 65 L.R.A. 899

³ *New Jersey School Laws* (1928), art. viii, sec. 173, p. 119

⁴ *Whitley v. State*, 33 Tex. Crim. App. 172, 25 S.W. 1072.

Notwithstanding a statute restricting immoderate punishment, a teacher may employ such force as is necessary in combating the efforts of a large, strong youth to assault him while resisting compliance with a reasonable demand. Such was the decision of a court in a 'Texas case.'

A conviction cannot be sustained where it appeared that prosecutor was eighteen years old, and large for his age, and had a bad reputation for disobedience; that he defied the authority of a previous teacher, and had been expelled by another for carrying brass knucks; that he refused to either write upon a topic when requested by the teacher, or go home when desired; and was not struck by defendant until he was in the act of making an assault on him with a plank.

TREND OF PUNISHMENT

The cases cited are sufficient to show that the problem of corporal punishment carries with it many complications. The legal authority for teachers to inflict corporal punishment cannot be definitely determined. It is merely hoped that the principles involved in these cases will aid the teacher to utilize more wisely his judicial authority.

It is obvious that, although the common law authorizes the teacher to administer such reasonable, necessary, and proper correction as the welfare of the child may require, the meanings of the words "necessary," "reasonable," "just," "moderate," "cruel," "excessive," and "proper," as applied to the punishment inflicted by the teacher upon a pupil, are ever changing according to the state of civilization of passing generations and the ideas prevalent in men's minds.

An examination of the court decisions shows that each year fewer cases pertaining to corporal punishment are recorded even though the school enrolment is constantly growing. This fact is ample evidence that other means of discipline are employed—a situation which has been foreshadowed by the court decisions:

While corporal punishment is thus countenanced, the tendency of public sentiment and the general tone of decisions tend toward its final abolishment; and it is evident that this mode of punishment will disappear from the schools, as it has already disappeared from the list of punishments of crime.¹

¹ *Thomason v. State*, 38 Tex. Crim. App. 335, 43 S.W. 1013.

² Note, 76 Am. Dec. 166

ASSEMBLING MARKS IN A DEPARTMENTALIZED SCHOOL

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Marks are commonly used to help the child and his parents evaluate the child's progress in school by making his successes and failures visible to them through the teacher's eyes. If marks are to provide the greatest self-analysis and motivating values, they should be given as promptly as possible after the close of the period which they represent. In a departmentalized school expeditious gathering and entering of marks on report cards is difficult, especially if all the clerical work must be done by the teachers. The common practice of passing packs of individual record forms from teacher to teacher for the entering of marks either involves delay or means that a teacher must stop the class work to copy marks when the cards arrive. If the subject teachers send class lists of marks to the home-room teacher, the labor of assembling the marks and copying them on report cards and permanent records is greatly increased.

These difficulties led to the devising of a form which automatically assembles the marks of each child in proper order for transfer to his report card and permanent record card for the office. Figure 1 shows the form assembled ready for copying the marks. This form eliminates repeated writing of the names of the children, keeps the names in alphabetical order, and brings the marks to the home-room teacher on a single compact line in the same order in which they are to appear on the report card. This arrangement facilitates copying and helps to prevent errors.

Two weeks after the beginning of the school year a mimeograph stencil of the form was prepared but without the names of the children. The horizontal rulings were measured to allow double spacing on the typewriter. With a penknife a long rectangular opening was cut in the stencil in the space in which the list of names appears. Alphabetical lists of the names of the children in each

corner of the cell containing the mark. The home-room teacher then checked the appropriate items on the report card at the time she transferred the marks.

Deportment and effort marks might be collected in the same way. We found it more convenient, however, in collecting the subject-teachers' estimates of deportment and effort marks, to circulate a single untrimmed copy of the class sheet among the subject teachers of the group, the home-room teacher having first entered her estimate for each child. Each subject teacher, if she differed with the home-room teacher, wrote down a mark. After the sheet had made the rounds, the home-room teacher revised her estimates and entered them on the cards when she entered the class marks.

In schools in which the home-room group remains practically intact in all subjects during the school year, many other convenient uses may be made of the mimeographed list of children's names with ruled cells attached. Extra copies of these lists may be made for the teachers and for the office at the time the forms are mimeographed. It might be added that the writer holds no brief for keeping the home-room group intact in all subjects, but the fact remains that in many schools such a practice is an administrative necessity. The same necessity dictates the practice of having the home-room teachers do all the clerical work of copying marks. Where these practices prevail, the form described saves much valuable time for more important educational tasks.

SELECTED REFERENCES ON PRESCHOOL AND PARENTAL EDUCATION¹

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In this bibliography are included some of the most significant publications in the field of preschool and parental education that appeared during the period from April 1, 1932, to December 1, 1932.² Foreign-language titles, textbooks, and reviews have not been included; nor, as a rule, have the articles on child care and training that appear from time to time in the popular journals unless these include facts which are not generally known or unless an original and challenging point of view is taken. Although an attempt has been made to list the most important publications of the period indicated, it is probable that oversights have occurred.

The bibliography is divided into three classifications. The first includes books and articles of a somewhat technical nature, chiefly reports of new investigations on child development and behavior. The second is non-technical and is devoted largely to material on the practical aspects of child training. The third group is made up of a few miscellaneous titles not clearly belonging in either of the first two classifications.

TECHNICAL AND EXPERIMENTAL STUDIES

72. ARRINGTON, RUTH E. *Interrelations in the Behavior of Young Children*. Child Development Monographs, No. 8. New York: Teachers College, Columbia University, 1932. Pp. xviii+156.

Presents a detailed summary of the activities of forty-one nursery-school children during free play. The findings are summarized to show individual differences among the children with respect to contacts with materials, physical activity, non-overt activity, talking, physical contacts with persons, laughing, and crying.

¹ The January issue of the *Elementary School Journal* contains a prospectus of the complete cycle of twenty lists of selected references, with the names of the specialists preparing them, being published in this journal and the *School Review*.

² A few significant studies which appeared in March have been included

73. BEAVER, ALMA PERRY. *The Initiation of Social Contacts by Preschool Children: A Study of Technique in Recording Social Behavior*. Child Development Monographs, No. 7. New York: Teachers College, Columbia University, 1932. Pp. 66.

Describes the frequency and the kinds of social contacts made by thirty-two nursery-school children during free play. Records of each child were classified to show the relative frequency of initiating and receiving contacts and of verbal versus non-verbal contacts, such as pushing or pulling, beckoning, etc.

74. BURTT, HAROLD E. "An Experimental Study of Early Childhood Memory," *Pedagogical Seminary and Journal of Genetic Psychology*, XL (June, 1932), 287-95.

Reports a striking experiment showing that selections of Greek poetry read daily for ninety-day periods to a child between the ages of fifteen and thirty-six months required on the average only 317 repetitions for relearning when the child reached the age of eight and a half years, whereas new selections of the same length required on the average 435 repetitions.

75. CASTNER, BURTON MENAUGH. *The Development of Fine Prehension in Infancy*. Genetic Psychology Monographs, Vol. XII, No. 2. Worcester, Massachusetts: Clark University Press, 1932. Pp. 105-94.

Describes the growth of the ability to pick up small objects. Based on a study of fifty-nine infants ranging in age from twenty to fifty-two weeks.

76. CHALLMAN, ROBERT C. "Factors Influencing Friendships among Preschool Children," *Child Development*, III (June, 1932), 146-58.

Analyzes 7,248 spontaneous groupings of thirty-three nursery-school children and works out an index of friendship for each child with every other child on the basis of the relative frequency of their association in the same group. The relations of friendship to similarity in age, sex, and personality traits are studied.

77. CHASE, LUCILE. *Motivation of Young Children: An Experimental Study of the Influence of Certain Types of External Incentives upon the Performance of a Task*. University of Iowa Studies in Child Welfare, Vol. V, No. 3. Iowa City, Iowa: University of Iowa, 1932. Pp. 120.

Presents the results of an experiment carried out with 213 children between the ages of twenty-seven and ninety-six months showing the effectiveness on the performance of a task of success alone, success with praise, success with reward, failure alone, failure with reproof, and failure with punishment.

78. CONRAD, HERBERT S., and JONES, MARY COVER. "A Two Year Record of Attendance and Colds in a Nursery School," *Child Development*, III (March, 1932), 43-52.

A study of the causes of children's absences from nursery school over a two-year period revealed that two-thirds of all absences were caused by colds, that the frequency of colds increased regularly from Friday to Monday, while a

drop occurred after vacations. More rigid morning inspection than is ordinarily found and routine disinfection of all common play materials are recommended.

79. DAVIS, EDITH A. "The Form and Function of Children's Questions," *Child Development*, III (March, 1932), 57-74.

Presents a detailed analysis of 3,650 questions asked by seventy-three children between the ages of three and twelve years.

80. DAY, ELLA J. "The Development of Language in Twins: I. A Comparison of Twins and Single Children," *Child Development*, III (September, 1932), 179-99.

Shows that on the average twins of preschool age are retarded in language development as compared to single children. It is suggested that this retardation is the result of mutual imitation.

81. DING, GLADYS F., and JERSILD, ARTHUR T. "A Study of the Laughing and Smiling of Preschool Children," *Pedagogical Seminary and Journal of Genetic Psychology*, XL (June, 1932), 452-72.

Based on 276 hours of observation of 59 Chinese children in nursery school and kindergarten. Concludes that young Chinese children laugh quite as much as Caucasians studied by other investigators and that their laughter occurs chiefly in connection with physical activity.

82. HILGARD, JOSEPHINE ROHRS. "Learning and Maturation in Preschool Children," *Pedagogical Seminary and Journal of Genetic Psychology*, XLI (September, 1932), 36-56.

Finds that maturation and incidental practice are the chief factors determining skill in fastening buttons, cutting with scissors, and climbing stairs during the third year of age. Specific training has only a small effect.

83. JENSEN, KAI. *Differential Reactions to Taste and Temperature Stimuli in Newborn Infants*. Genetic Psychology Monographs, Vol. XII, Nos. 5 and 6. Worcester, Massachusetts: Clark University Press, 1932. Pp. 361-480.

A report of a well-controlled study of the ability of new-born infants to respond to sensory stimulation.

84. JONES, HAROLD E., and DUNN, DOROTHY. "The Configural Factor in Children's Learning," *Pedagogical Seminary and Journal of Genetic Psychology*, XLI (September, 1932), 3-13.

Shows that the frequency of relative choice, that is, choice in terms of a relation rather than an absolute factor, is related to the efficiency of learning.

85. JUSTIN, FLORENCE. "A Genetic Study of Laughter Provoking Stimuli," *Child Development*, III (June, 1932), 114-36.

Describes an experiment in which children three to six years of age were shown various kinds of laughter-provoking stimuli while their responses were recorded. Laughter occurred most frequently in response to a concrete situation, verbal description ranked next, and pictures were least effective.

86. LEE, MARY A. M. "A Study of Emotional Instability in Nursery School Children," *Child Development*, III (June, 1932), 142-45.
From an observational study of changes in mood among nursery-school children, it is concluded that moods are closely related to the immediate situation in which they occur and that they are affected by a large number of environmental factors.
87. RICHARDSON, HELEN M. *The Growth of Adaptive Behavior in Infants: An Experimental Study at Seven Age Levels*. Genetic Psychology Monographs, Vol. XII, Nos. 3 and 4. Worcester, Massachusetts: Clark University Press, 1932. Pp. 195-360.
An experimental study of the development in infants from twenty-eight to fifty-two weeks of age of the ability to pull strings in order to secure a lure.
88. ROBERTS, KATHERINE ELLIOTT. "The Ability of Preschool Children To Solve Problems in Which a Simple Principle of Relationship Is Kept Constant," *Pedagogical Seminary and Journal of Genetic Psychology*, XL (March, 1932), 118-33.
Shows that, as age advances, there is a steady increase in the ability of young children to solve a problem on the basis of a relationship.
89. SMITH, MADORAH E. "The Direction of Reading and the Effect of Foreign-Language-School Attendance on Learning To Read," *Pedagogical Seminary and Journal of Genetic Psychology*, XL (June, 1932), 422-51.
Describes a test for studying the development of a consistent pattern in direction of reading, the kinds of patterns most typical at different preschool ages, and the relations of the test scores to age, intelligence, reading ability in the early primary grades, and kind of school attended.
90. SMITH, MADORAH E. "The Preschool Child's Use of Criticism," *Child Development*, III (June, 1932), 137-41.
Among children two to six years of age four types of situations gave rise to unfavorable criticism: interference with self or possessions, failure to conform to child's wishes or to his ideas of social usage, lack of knowledge or skill, and undesirable personal traits.
91. SOMMERS, AGNES THORVILSON. "The Effect of Group Training upon the Correction of Articulatory Defects in Preschool Children," *Child Development*, III (June, 1932), 91-103.
Shows that fifteen minutes of group training given daily for a period of twelve weeks results in a much more rapid correction of articulatory defects than comes about with a three months' gain in age when no training is given.
92. STAPLES, RUTH. "The Responses of Infants to Color," *Journal of Experimental Psychology*, XV (April, 1932), 119-41.
A report of a carefully controlled experiment dealing with the responses of 264 infants ranging in age from sixty-nine days to twenty-four months. Suggests that color is recognized as something different from gray of the same bright-

ness by the end of the third month but that the different colors are probably not distinguished from each other until later. The ability to distinguish colors appears to develop in the following order: red, yellow, blue, and green.

93. UPDEGRAFF, RUTH, "The Determination of a Reliable Intelligence Quotient for the Young Child," *Pedagogical Seminary and Journal of Genetic Psychology*, XLI (September, 1932), 152-66.
Shows that more reliable results can be obtained by delaying the giving of intelligence tests to nursery-school children until two or more weeks after the opening of school, when the child has had opportunity to become accustomed to the new situation.
94. UPDEGRAFF, RUTH, "Ocular Dominance in Young Children," *Journal of Experimental Psychology*, XV (December, 1932), 758-66.
Describes the development of ocular dominance in 190 children between the ages of two and six years.
95. VAN ALSTYNE, DOROTHY, *Play Behavior and Choice of Play Materials of Preschool Children*, Chicago: University of Chicago Press, 1932. Pp. xii+104.
Describes the kinds of toys most frequently chosen by nursery-school children, discusses the factors apparently related to their choices, and the ways in which the toys are used. Age and sex differences are noted.
96. WASHBURN, RUTH W. "A Scheme for Grading the Reactions of Children in a New Social Situation," *Pedagogical Seminary and Journal of Genetic Psychology*, XL (March, 1932), 84-99.
By means of a system of controlled observations and records, a scheme was devised for classifying the behavior of children when they were brought to the clinic for the first time. The scheme was found useful in the study of personality differences.
97. WELLMAN, BETH L. "Some New Bases for Interpretation of the IQ," *Pedagogical Seminary and Journal of Genetic Psychology*, XLI (September, 1932), 116-26.
Presents evidence that the intelligence quotients of nursery-school children increase on the average by 7.8 points from autumn to spring and decrease on the average by 0.9 point during the summer.

NON-TECHNICAL BOOKS AND ARTICLES PRIMARILY FOR PARENTS

98. "Children and the Use of Money," *Child Study*, IX (May, 1932), 251-62.
Contains five articles on training children in the proper use of money.
99. *Child Welfare Pamphlets* (Based on the Reports of the White House Conference on Child Health and Protection) Fifteen bulletins of the University of Iowa. Iowa City, Iowa: University of Iowa, 1932.
A series of fifteen brief pamphlets written by various authors to assist parents. Deal with such topics as the underweight child, learning to talk, learning to use hands and feet, managing the family income, etc.

100. "Everyday Problems," *Child Study*, X (November, 1932), 35-50.
A series of six articles on problems of child behavior, including a special series of discussions on thumb-sucking.
101. FAEGRE, MARION L. *Correspondence Course in Later Childhood and Early Adolescence*. Minneapolis, Minnesota: Institute of Child Welfare, University of Minnesota, 1932. Pp. 208.
A reading course for parents and study-group leaders.
102. FISHER, DOROTHY CANFIELD, and GRUENBERG, SIDONIE MATSNER (Editors). *Our Children: A Handbook for Parents by Twenty-nine Experts in Child Study*. New York: Viking Press, 1932. Pp. x+348.
Following brief introductory articles by each of the two editors are twenty-seven chapters on various aspects of child growth and conduct, each by a different author. These chapters are divided into four main groups: (1) "The Child's Growth and Development," with chapters by Gesell, Popenoe, McCollum, Kugelmass, and Lucas; (2) "The Child at Home," with chapters by Anderson, Wolf and Brickner, Arlitt, Miller, Regensburg, Blatz, Benjamin C. Gruenberg, Meyer, and Glueck; (3) "The Child at School," by Kilpatrick, Embree, Freeman, Stoddard, Thayer, McCormack, and McConn; (4) "The Child in the Outside World," by Groves, Link, Lindeman, Frank, Case, and Pilpel.
103. "How Children Learn the Truth," *Child Study*, X (October, 1932), 3-21.
A series of six articles on truth-telling.
104. MARTENS, ELISE S. *Parents' Problems with Exceptional Children*. United States Office of Education Bulletin No. 14, 1932. Pp. viii+72.
A concise treatment of parents' problems centering in (1) the physically handicapped child, (2) the exceptionally bright child, (3) the mentally retarded child, and (4) the socially different child. A good list of consulting agencies in different parts of the country and a brief bibliography are given.
105. "Play and Play Materials," *Child Study*, X (December, 1932), 67-83.
A series of nine brief articles on play.
106. RICHARDS, ESTHER LORING. *Behavior Aspects of Child Conduct*. New York: Macmillan Co., 1932. Pp. xvi+300.
A discussion of the nature, causes, and treatment of conduct disorders.
107. *Toward Understanding Children*, II. Addresses Given before the Fifth Annual Iowa State Conference on Child Development and Parent Education. University of Iowa Extension Bulletin, No. 283. Iowa City, Iowa: University of Iowa, 1932. Pp. 110.
A series of brief articles for parents and workers in the field of parent education.
108. WARING, ETHEL B., and WILKER, MARGUERITE. *Children and Materials—Children with Other Children*. The Behavior of Young Children, Book III. New York: Charles Scribner's Sons, 1932. Pp. xii+198.
Tells how parents may help their children to acquire desirable attitudes toward other children and toward material objects.

109. "What Children Think of Parents," *Child Study*, IX (April, 1932), 219-27.
Four articles on the relations of parents and children.

MISCELLANEOUS

110. *Appraisalment of the Child. Growth and Development of the Child*, Part IV. Report of the Committee on Growth and Development, Kenneth D. Blackfan, Chairman. Section I, Medical Service, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp xx+344.
Describes methods of appraising the child's mental and physical status. Presents standards of development and discusses factors that affect growth.
111. BECKHAM, ALBERT S. "The Negro Child of Pre-School Age," *Southern Workman*, LXI (May, 1932), 221-26.
Describes the advantages of nursery-school training for negro children and urges that educational institutions dealing with negroes devote more attention to the needs of the young child.
112. EZEKIEL, LUCILLE FINSTERWALD. "An Aggressive Child in a Nursery School," *Journal of Educational Psychology*, XXIII (April, 1932), 291-98.
Describes the home background and the behavior of an unduly aggressive child and gives methods employed for corrective training.
113. HECTOR, ELIZABETH R. "The Deaf Child of Preschool Age," *American Annals of the Deaf*, LXXVII (September, 1932), 290-91.
Deals with methods of preschool training of deaf children.
114. KILPATRICK, WALTER M. "Preschool Needs of Handicapped Children—the Deaf, Particularly," *American Annals of the Deaf*, LXXVII (September, 1932), 321-27.
Deals with methods of training deaf children in the home or the nursery school. The importance of beginning training early in life is emphasized.
115. *Nutrition Growth and Development of the Child*, Part III. Report of the Committee on Growth and Development, Kenneth D. Blackfan, Chairman. Section I, Medical Service, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xx+532.
A symposium in which many leading authorities present a comprehensive survey of nutritional problems as these affect the child.
116. THURSTON, FLORA M. *A Bibliography on Family Relationships*. New York. National Council of Parent Education, 1932. Pp 274.
An annotated bibliography for the period from January, 1928, to May, 1932.

Educational Writings

REVIEWS AND BOOK NOTES

Progressive education and the guidance function of the teacher.—"Guidance in the Schools of Tomorrow" might well be the title of Brewer's new book.¹ The main thesis of the book is stated by the author as follows:

Schools should guide pupils. . . . The problem of guiding students, as a problem, should be discussed among teachers. The problems of living, as problems, should be made the subject matter of school and college work. . . . These discussions should eventuate in the best kinds of activities for young people, and in guidance therein, which we can co-operatively formulate [p. 7].

The main emphasis in the book is on the life-activity type of curriculum construction and the creative-education or progressive type of school. The idea is advanced that schools should aid pupils in improving, extending, and organizing their individual and co-operative activities. Present schools are charged with taking the raw materials of facts, information, and knowledge and manufacturing credits. They should teach "living" and not just "how to live."

After five introductory chapters in which the author outlines his new conception of education and of guidance in relation thereto, the book takes up such topics as the following: the problems of educational guidance, curriculum-making and methods, guidance for home relationships, guidance for citizenship (two chapters), vocational guidance (two chapters), guidance for leisure and recreation, guidance for personal well-being, religious guidance, ethical guidance, guidance in thoughtfulness and co-operation, cultural guidance, the administration of guidance, and a final chapter on the use of present studies for guidance.

The book makes a real contribution to the literature of progressive education and the guidance function of the teacher in that type of school. It will be criticized by the vocational-guidance experts because of its emphasis on all phases of guidance and because of its identification of guidance with the whole of the educational process rather than a segment thereof. It will be criticized by the educational counselors for its exaltation of the teacher rather than the specialists in counseling. The author, however, has protected himself from such criticism by his title, "Education as Guidance." He frankly identifies guid-

¹ John M. Brewer, *Education as Guidance*. New York: Macmillan Co., 1932. Pp. x+668. \$2.75.

ance with the total process of education of the progressive or life-activity type, since in this type of learning the teacher becomes primarily the guide, counselor, and friend of her pupils. Many procedures which now clutter up the educative process with credit-bookkeeping and make work for counselors in the matter of adjustments would not arise in the creative-activity type of school which Brewer envisages.

The book is replete with the philosophy of progressive education and may well become a teacher's handbook in that field.

While Brewer repudiates the conventional school and all its works, his chapters on auxiliaries to guidance and its administration and on the use of present studies for guidance contain many helpful suggestions to guidance workers in all types of schools. The approach is philosophical rather than scientific. Yet the author has behind him such a wealth of literary background and practical experience in the field of guidance that the book is brimming over with hints and suggestions which any educational or vocational counselor will find helpful and stimulating. Progressive educationists also will be heartened by the strong support given to their movement in Brewer's book.

WILLIAM MARTIN PROCTOR

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Two additions to the literature of activity curriculums.—The two volumes under review¹ are the fifty-fifth and the fifty-sixth in the reviewer's collection of treatises on activity curriculums. Both volumes follow the usual pattern, devoting several chapters to theory with subsequent chapters devoted to illustrative material. Although the authors differ in background, both books represent the position of the moderate progressives with respect to teacher control and provision for the learning of the basic essentials. Both books are accounts of public-school practice and advocate the learning of some subjects separately.

A unique feature of the first volume, *A Teacher's Guide Book to the Activity Program*, is that it is brought out under the authorship of a high administrative official of a large public-school system, who, needless to add, is a man. Mr. Lane's interpretation of an activity (painting at easels, washing clothes, etc.) is somewhat narrow. The activity program, it appears, lasts approximately two hours, plus one hour of drill if necessary. The author includes three illustrations of the time schedule of activity programs which are somewhat more flexible than his own proposal. It is his view that the social studies should be the principal source of units of work, that the outcomes should be governed by the course of study, and that only those units should be selected which yield these outcomes. Thus, the course of study, not the children, determines the selection

¹ a) Robert Hill Lane, *A Teacher's Guide Book to the Activity Program*. New York: Macmillan Co., 1932. Pp. viii+258. \$2.00.

b) Lucy Weller Clouser, Wilma J. Robinson, and Dena Lois Neely, *Educative Experiences through Activity Units*. Chicago: Lyons & Carnahan, 1932. Pp. 352.

of the unit. The last two of the three illustrated units of work in chapter iii go farther in providing for the initiative of the children than does the author in his general statement. The first of these units, devoted to the study of Arabia, resorts to the same old devices for motivating lessons that have been used for many years. The unit on rubber, which lasts eleven days, is good, but the direction of the teacher is unmistakable. Her plan is to devote two months to South America, and, although rubber is grown in tropical regions throughout the world, the class does not stray from the prescribed continent. The unit on the newspaper is genuinely child centered and is good.

The author, in common with many others, recommends that arithmetic be taught separately. It is the reviewer's opinion that any organization committed to an activity program has no excuse for teaching arithmetic in isolation. Quantity is incidental to all experience and enters richly into all units of work. According to the author, not only should certain subjects be taught separately, but some of them—art, music, nature-study, and physical education—should be taught by special teachers.

Chapter v, consisting of approximately one-half the volume, bears only a slight relation to the theme of the book. It is a record of the author's observation of twenty-two superior teachers for a period of not more than one and a half hours. However, this chapter is highly recommended as excellent material for study in classes devoted to supervision. On the whole, the book is easy to follow, answers some practical problems of programming; contains several independent points of view, and serves, principally, to give assurance to the skeptical, experienced teacher and administrator of the practicability of an informal elementary-school program.

The second volume, *Educative Experiences through Activity Units*, is a record of some of the activities carried on during one year in two classes in public schools in Kansas City. The units are presumably based on the needs and the interests of the child. They are initiated by the children or by the teacher. Teacher guidance at every step in the unit of work is presupposed. Essentials not included in the units of work are taught independently.

The units are selected by the following procedure: The teacher studies her class to discover their social habits, interests, and home environments. The children's suggestions and the requirements of the grade are listed. From these, the teacher selects the units for the year. Before a unit is begun, it is carefully planned by the teacher, the approach being made through the medium of the story.

About one-quarter of the units are based on centers of interest not hitherto treated in similar volumes. From the point of view of the whole range of child interests, the units are limited almost exclusively to (1) play and recreation, (2) parties and holidays, and (3) far-away times and far-away places. The home, the community, the store, the economic world, and animal and plant life are represented by not more than three units, although these themes are touched by the occasional introduction of related information. Such a lack of balance could

be avoided by constant reference to a comprehensive chart of child or adult life, such as that recorded in the Curriculum Records of the Children's School of the National College of Education.

There is some doubt as to the wisdom of limiting the origin of units to reading situations. It gives the teacher too much temptation to palm off on the children a unit of work which may be foreign to their interests. In this work the units tend to favor activities in the field of literature and dramatization. On pages 34-35 there is a list of the things the children in the second and the third grades expressed a desire to do. If this list actually represents the children's choices, then their influence on the ultimate choice of the units was negligible.

Much space is devoted to the values that result from the unit. This failing is one of the most common in our extensive records of units of work. Does it not occur to these many reporters that it is possible for the unit to proclaim its own virtues?

The units are clearly and simply reported, an authentic atmosphere of child life being revealed. The unit proper is brief, but it is followed by a full description of how the content of the several subjects is introduced. While the activities are not lacking in freshness, they offer convincing circumstantial evidence of an accumulation of experience and resourcefulness gained from long devotion to what is becoming a widespread program of child development. By no means do they represent a process of day-by-day improvisation.

Both volumes present a picture of moderately progressive practice in an informal classroom with a fairly flexible program. The books are two additions to an abundant literature of activity curriculums. They should appeal to principals who are sympathetic toward the active school which is becoming increasingly common in the elementary grades.

There are two principal ways of spreading a movement: (1) by the printed word and (2) by example. It seems to the reviewer that the time is ripe for a gradual diminution of the literature of the activity curriculum and for an increase of demonstrations by master teachers and the establishment of demonstration centers accessible to regions in need of guidance in child development through active experiences.

HENRY HARAP

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A description of the Winnetka plan.—For thirteen years Carleton Washburne has been developing a plan of individual instruction that has attracted nationwide attention. Inspired by Frederic Burk in California, Washburne came to Winnetka, Illinois, in 1919, imbued with the idea that individual instruction is practicable in the public schools. In a small volume¹ he now presents the basic principles of this system and the manner in which it is applied in important ele-

¹ Carleton Washburne, *Adjusting the School to the Child: Practical First Steps*. Yonkers-on-Hudson, New York: World Book Co., 1932. Pp. xvi+190. \$1.68.

mentary-school subjects. He also describes the procedure employed in "group activities," to which one-half of each school day is devoted.

Under the plan described instruction has been individualized in arithmetic, oral and silent reading, handwriting and spelling, and in certain phases of English and the social studies. The basic principles in the process of individualization are specific standards, diagnostic tests, and self-instructive and self-corrective teaching materials. The author amply illustrates the application of these principles by the use of concrete materials from the various subjects mentioned.

In the details of instruction the author has been quick to profit by the scientific findings of others and indeed has conducted numerous investigations to throw light on the problems confronted. The Winnetka studies of problem-solving in arithmetic, the gradation of topics in arithmetic, the reading interests of children, and the content of the social studies are well and favorably known. No experimental attack on the problem of organizing individual instruction has shown greater alertness to the results of scientific investigations relating to elementary-school instruction.

The chapter on "Socializing the School" will repay any reader for his effort. It is, however, all too brief for one who believes that the group and creative activities are the life-giving portion of the curriculum. The book also contains an excellent chapter on the control of behavior, under the title "The Behavior of the Individual Child." Here the author uses the approach of the mental hygienist and interestingly shows with facts from case studies how the causes of behavior symptoms may be diagnosed and remedied.

The concluding chapters show how to administer the individualized school and how to convince the community of its value.

The book throughout is descriptive. It is not designed to be evaluative. Before, however, one adopts the plan so clearly and vigorously presented by the author, one should inquire with regard to comparable results under the more common plan of class instruction. The best data of this type are provided in a study financed by the Commonwealth Fund (Carleton Washburne, Mabel Vogel, and William S. Gray, *A Survey of the Winnetka Public Schools*. Supplementary Educational Monograph, Journal of Educational Research. Bloomington, Illinois: Public School Publishing Co., 1926), in which the achievement of Winnetka pupils is compared with the achievement of pupils in a neighboring town of similar size and social composition. Measurements were made by means of standardized tests in reading, arithmetic, spelling, and language, with mental age controlled. Winnetka excelled in two of the subjects, the neighboring town in two. Moreover, another study (R. D. Judd, "A Study of Current Expenses for the Elementary Schools in Three Illinois Cities." Unpublished Master's thesis, Department of Education, University of Chicago, 1924) has shown that the average cost per pupil in average daily attendance was twice as great in Winnetka as in the neighboring town. These data suggest that the superiority of the Winnetka technique has not yet been satisfactorily demonstrated.

The author writes like a master of his subject. His style never falters for a lack of fluency, and his enthusiasm is contagious. Everyone interested in elementary-school methods should make contact with this volume.

FREDERICK S. BREED

A summary of studies relating to the psychology of reading.—During the last three decades several summaries of investigations relating to the psychology of reading have been published. The nature and the scope of these reports are admirably illustrated by the publications of Huey, Judd, Buswell, Gates, Brooks, O'Brien, and Tinker. It is needless to add that such summaries have contributed greatly to an understanding of the practical problems involved in teaching reading. The literature of this field has been recently increased by a very stimulating report prepared by M. D. Vernon,¹ following researches in the Cambridge Psychological Laboratory under a subsidy from the Medical Research Council of England.

The purpose of Vernon's report is "to give a concise account of any experimental work, particularly that recently performed, which throws some light upon the psychology of reading" (p. xiii). The seven chapters relate to three important topics, namely, the motor processes in reading, perception, and the hygiene of reading. The first of these topics is treated at much greater length than the others. In partial support of this emphasis, Vernon points out that "a very remarkable series of specialized ocular motor habits has been developed in the mature reader, comparable to the series of motor habits of the vocal cords in speech and of the hand in writing. These ocular motor habits have been perfected and closely integrated with primary-perceptual and assimilatory processes and secondary associative thought-processes to constitute the total complex which makes up reading" (p. xiii).

The contents of the chapters relating to the motor processes are well organized and instructive. Chapter i reviews the various methods which have been used in study and recording eye-movements. Chapter ii discusses the types of eye-movements which are produced by the extra-ocular muscles. Chapter iii, which relates to the sensations of eye-movements, outlines the connections between the kinaesthetic sensations derived from the various movements described and visual sensation in general. Chapter iv presents a detailed summary of the experimental studies relating specifically to eye-movements in reading. These discussions are noteworthy in at least two respects. (1) Much evidence is introduced from the general field of visual sensation as a basis for understanding the motor processes in reading. (2) The results of the author's recent studies of eye-movements in reading add materially to the evidence presented in previous summary reports.

The second major topic treated relates to the perceptual processes in the read-

¹ M. D. Vernon, *The Experimental Study of Reading*. Cambridge, England: Cambridge University Press, 1931. Pp. xvi+190

ing of adults and children. The discussion is limited to two chapters. Chapter v, which is entitled "Visual Perception in Reading," begins with a review of significant facts concerning visual perception in general. Only brief reference is made to controversial issues and diverse theories in this field. The remainder of the chapter is concerned with the nature of the perceptual processes in mature reading. Chapter vi summarizes evidence relating to visual perception and reading among children. In this connection several significant facts are emphasized. For example, Vernon concludes from evidence presented that pupils "must pass through some stage of analysis before they can finally attain to the adult method of perception of phrases and sentences" (p. 145). She also points out the close relation existing between visual percepts and their equivalence in speech. As soon as the visual percept is integrated with its language form, "the way is open for the organization of the visual percepts of individual words into structural wholes, namely, the habitual language and thought units of the phrase and the sentence" (p. 151). In view of the intimate relation between reading and language in general, it is unfortunate that Vernon did not treat the foregoing topic at greater length.

The final chapter in the book relates to typographical factors and includes much of the work which Vernon did in this field for the Medical Research Council. The conclusion to the effect that "not much is known definitely as to the influence of typographical factors upon the ease and efficiency of reading" (p. 175) is somewhat depressing, to say the least. Certainly all will agree with the author in the statement that there is need for the refinement of methods of research in this field and for evidence which is far more conclusive than is that at present available.

Vernon's report is a distinct contribution to the literature on reading. It will serve its greatest usefulness in courses in the psychology of reading in teacher-training and other higher institutions. As indicated earlier, much material from the general fields of visual sensation and perception are introduced. Considerable familiarity, therefore, with general psychological terms is essential to a clear understanding of certain sections. The reader is greatly helped, however, in following and interpreting the book by its excellent organization and clarity of statement.

WILLIAM S. GRAY

A history textbook for the intermediate grades.—Unusual advances in the making of textbooks have taken place in recent years, nowhere more noticeably than in textbooks in the social studies for the elementary schools. A volume of history for the intermediate grades,¹ published in the Tryon and Lingley Series, is illustrative of a number of changes, both in style and in format, which have taken place.

The book deals with the Colonial period in American history and presents its

¹ Mary G. Kelty, *The American Colonies*. Boston: Ginn & Co., 1932. Pp. viii+334 \$1.00.

material in three major themes, or units. "Why English People Came To Live in the New World," "How England Came To Own Most of North America," and "How People Lived during Colonial Days." Each unit is subdivided into sections, and the sections are composed of short stories, each a distinct reading entity, yet all integrated with the unit. Unit I has four sections: "Some People Came To Earn a Better Living," presented in four stories; "Some People Came so that They Might Go to Their Own Churches," presented in four stories, "The English People and the Dutch on the Hudson," in seven stories; and "A 'Holy Experiment' in Colonization," in two stories. Unit II has three sections: one story on "The English People Were Fast Spreading over the Mountains," two stories on "The French and the English Wanted the Same Land," and seven stories on "The French and Indian War." In Unit III each section contains one story; the sections are entitled "Life in the Southern Colonies," "Life in New England," and "Life in the Dutch Colony on the Hudson."

While the content of the book is fairly comprehensive within the Colonial field, one may question the apportionment of space among the topics dealt with. The Dutch settlements, for example, seem to be given a disproportionate amount of attention, and perhaps too little attention is given, in general, to social aspects of Colonial life. Unit I, "Why English People Came To Live in the New World," covers 178 pages; Unit II, "How England Came To Own Most of North America," covers 90 pages; Unit III, "How People Lived during Colonial Days," has only 48 pages. One may wonder, too, whether a unit as long as the first could not be taught more effectively to pupils in the elementary school if it were broken into smaller units.

Pedagogically, Miss Kelly's book is excellent. It is intended as a "reader" rather than an old-fashioned textbook. Its vocabulary has been carefully checked as to grade placement, and all new terms included are carefully explained as they are used. The book is an application of the principles discussed in the author's *Teaching American History in the Middle Grades of the Elementary School*; the minimum essentials, such as proper names and dates used in the text, are those to be found in the lists of basic facts in the teacher's book. Indeed, the latter volume contains specific suggestions of teaching procedures for practically all the stories in the textbook. Teaching suggestions are also included at the end of each story in the textbook; these include games, review questions, and especially self-testing exercises. One excellent device for presenting the unit interpretation of each story is to put a one-sentence summary of it at the end of each chapter, so placed on the page that it stands by itself. In point of format the printers have done an excellent piece of work. There are many illustrations, full of action and unusually well chosen, though not always well printed. The general appearance of the book is distinctly attractive.

Miss Kelly's volume demands attention for its own merits, then, and especially because it is one item of a carefully planned scheme of social-science instruction for the intermediate grades.

HOWARD E. WILSON

HARVARD UNIVERSITY

A unified course in science for the elementary grades.—Those teachers and supervisors of science in the elementary school who are in sympathy with the recent movement toward the development of a unified course in science extending from the kindergarten through the secondary school and with the recommendations made for such a course in the Thirty-first Yearbook of the National Society for the Study of Education, Part I, will greet with interest a recently published series of textbooks in science.¹ The six books of the series are planned for the children of Grades I through VI, and, in harmony with the program outlined in the Thirty-first Yearbook, the subject content of the series is organized in units designed to develop meanings derived from the fields of astronomy, biology, chemistry, geology, and physics. The series is based directly on the results of studies involving, in the words of the authors, "an analysis of children's interests in science, educated laymen's needs in science, present practices in the elementary schools, and an exploration of the various fields of science for challenging themes appropriate to the elementary school" (Book IV, p. iii).

The subject matter of each unit is presented as a series of problems. Suggestions for activities are provided under the headings "Things To Think About" and "Things To Do," and abundant assimilative material is provided. In the last four books of the series each unit begins with an introduction designed to motivate the study of the unit and to show the connection between the new unit and the preceding one.

Doubtless, adverse criticism will be offered to the series by teachers and supervisors who do not believe that the type of course and treatment represented should be carried into the lower grades of the elementary school—who think that teachers of science in the lower grades should concern themselves not with the development of generalizations but with the building-up of a fund of concrete experiences which will later serve as a basis for generalizations. In this review the difference of opinion concerning the program of science in the lower grades will be disregarded, and an attempt will be made merely to evaluate the series from the standpoint of whether the authors embodied a unified plan successfully.

Even a casual examination of the series reveals that in these books a wealth of valuable material has been made available in very attractive form. Especially to be commended are the illustrations, which are not only numerous but for the most part serve their purpose very well indeed, and the style, which is simple and direct with no evidence of the "writing-down" resorted to by many authors in the presentation of factual material to children of the elementary-school level

¹ Gerald S. Craig, Sara E. Baldwin, Beatrice Davis Hurley, Margaret G. Condry, and Goldie M. Johnson, *Pathways in Science*: Book II, *Out-of-Doors*, pp. vi+270; Book III, *Our Wide, Wide World*, pp. viii+306; Book IV, *The Earth and Living Things*, pp. viii+308; Book V, *Learning about Our World*, pp. viii+384; Book VI, *Our Earth and Its Story*, pp. viii+462. Boston: Ginn & Co., 1932.

Another strong feature of the series is its balance, no one field of science is given undue prominence.

The reviewer believes, however, that in several respects the series falls short of being altogether satisfactory. There is much duplication. The authors are of course aware of this duplication, but they attempt to justify it on the ground that, when a topic is repeated, the treatment differs so markedly from the earlier treatment that there is no real duplication. In some cases the reviewer is unable to find any fundamental respects in which the "different" treatments differ. In Book III, for example, six pages are given to a discussion of color. In Book V the topic is discussed again, and the discussion differs in nothing but style and vocabulary from the earlier discussion. Moreover, there is nothing in the second discussion to suggest that the topic has been even mentioned before in the series.

Fortunately, duplication is not so extensive as the lists of units in the Tables of Contents suggest. Anyone finding in Book II a unit called "The Sky above Us," in Book III "The Story of the Sky," in Book V "The Sky," and in Book VI "The Wonders of the Sky" might well expect to find more duplication in these units than actually exists. However, the wisdom of including so many units about the sky is open to question. So minute a division of subject matter implies that much more is known about grade placement than is known and that our children are extremely passive intellectually. To illustrate, in Book II the children are told that the sun is very, very far away, so far away that most of them could not understand how far away it is even if they were told. In Book III five pages are spent in explaining how far away the sun is. Are children of the third grade so much more able than children of the second grade to understand vast distances that this division of subject matter is justifiable? Moreover, the very form of statement used in Book II will surely serve as a challenge to an alert second-grade child to find out exactly how far away the sun is. Shall we insist that he wait for a year to find out?

Sufficient care has not been taken to check the explanations given in various books of the series of the same phenomena. For example, in Book III the earth is said to have originated from a huge band of hot gas pulled off the sun. In Book V the explanation is given that the planets originated from a huge, mountain-like piece of the sun's surface which was torn away from the sun and then broken into smaller pieces. In Book VI two theories of the origin of the solar system are stated, neither of which is in exact accord with either of the earlier explanations.

The use of the term "problem" for each major subdivision of a unit is misleading. To illustrate, the main subdivisions of the unit entitled "Early Life" are "Problem 1, 'Life Started on the Earth'" and "Problem 2, 'Life Stays on the Earth.'" No real problems are suggested.

Some of the units are not true units. There is material in Book IV for a good unit concerning social life among animals, but the material is organized not into one unit but into three. Does such a division of subject matter represent a hold-over of the old idea that content material must be administered in doses of

approximately equal size? The unit "Around Us" in Book V represents another unsatisfactory type of unit. There are no clear-cut major understandings about which the content of the unit is organized.

In conclusion, the series, as has been pointed out, contains a large amount of attractive material, and the reviewer believes that the shortcomings of the series will not prove to be serious obstacles to its effective use by those teachers who are in accord with the philosophy underlying it.

BERTHA M. PARKER

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GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

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GILBERT, LUTHER C. *An Experimental Investigation of Eye Movements in Learning To Spell Words*. Psychological Monographs, Vol. XLIII, No. 3. Princeton, New Jersey: Psychological Review Co., 1932. Pp. viii+82.

HOLLINGWORTH, H. L. *Educational Psychology*. New York: D. Appleton & Co., 1933. Pp. xvi+540. \$3.00.

MORRISON, HENRY C. *The Evolving Common School*. The Inglis Lecture, 1933. Cambridge, Massachusetts: Harvard University Press, 1933. Pp. 62. \$1.00.

SMITHIES, ELSIE M. *Case Studies of Normal Adolescent Girls*. New York: D. Appleton & Co., 1933. Pp. x+284. \$2.00.

The Yearbook of Education, 1933. Lord Eustace Percy, Editor in Chief. London, England. Evans Bros., Ltd. (Montague House, Russell Square). Pp. c+860.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL TEACHERS AND PUPILS

Achievements of Civilization; No. 4, *The Story of Our Calendar*, pp. 32, \$0.10, No. 5, *Telling Time throughout the Centuries*, pp. 64, \$0.20, No. 6, *Rules of the Road*, pp. 32, \$0.10. Chicago: Committee on Materials of Instruction of the American Council on Education (5835 Kimbark Avenue), 1933.

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- JOHNSTON, HARRIET M. *The Art of Block Building*. The Cooperating School Pamphlets, No. 1. New York: John Day Co., 1933. Pp. 48. \$0.50.
- LOVE, CLARA M. *Dramatic Scenes from American History for Reading and Production in Junior and Senior High Schools*. Boston. Ginn & Co., 1933. Pp. xx+248.

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- GREENE, HARRY ANDREW. *A Criterion for the Course of Study in the Mechanics of Written Composition*. Studies in Education, Vol. VIII, No. 4. Iowa City, Iowa: University of Iowa, 1932. Pp. 64.
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- LEARNED, W. S., and WALLACE, E. W. *Local Provision for Higher Education in Saskatchewan*. An Advisory Memorandum on University Policy Proposed at the Request of the University of Saskatchewan. New York: Carnegie Foundation for the Advancement of Teaching, 1932. Pp. 30.
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- Recent issues of the Office of Education
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- The School Board Member.* Research Bulletin of the National Education Association, Vol. XI, No. 1. Washington: Research Division of the National Education Association, 1933. Pp. 40.
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- MACE, C. A. *The Psychology of Study.* New York: Robert M. McBride & Co. Pp. viii+96.

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Educational News and Editorial Comment

REVIEWS OF BOOKS IN THE "SCHOOL REVIEW" AND THE "ELEMENTARY SCHOOL JOURNAL"

In the February issue of the *School Review* the editor published the following statement in which he describes the policies of that journal with respect to reviews of books and indicates something of the way those policies have worked out in recent years. The statement is reproduced here because of its general interest and because it will serve as a statement of the policy of the *Elementary School Journal* touching reviews of books. The reader should bear in mind that in general the policies of the two journals are the same except that each has its own particular fields of specialization.

Regular readers of this journal probably do not need to be told that the section devoted to "Reviews and Book Notes" is not conducted as a mere afterthought or a minor addendum to an educational periodical. They will understand that this section is regarded as a feature on a par in importance with any other maintained, on the assumption that subscribers with scholarly interests will require scholarly appraisals of books and monographs in the field of education which the *School Review* undertakes to cover. It may, nevertheless, be in place to make what is, in effect, a report in summary on the way in which the

policy concerning reviews has worked out in recent years. The statement will refer to the authorship of the reviews, the scope of the reviews, certain other elements of policy, and the relation of the reviews published in this journal to those appearing in the *Elementary School Journal*.

The same readers will not deny to the *School Review* the right to take pride in the distinction both of its reviews and of the list of reviewers. The space allotment to reviews has permitted the publication in each volume of ten issues during the past two years of almost eighty well-considered reviews. These were prepared by not far from sixty different reviewers in a single year and almost a hundred different reviewers over a period of two years. Space cannot be spared to list these contributors or even to demonstrate, by naming a number, their professional standing. A glance at the names signed to the reviews in any issue should be sufficient assurance on this score. The various reviewers have been selected for their competence in the fields represented, and the group resulting may be thought of as a staff of a hundred specialists qualified to address themselves to the diverse tasks of appraisal. The members of the staff have professional connections with more than forty different institutions and organizations located in a score of states distributed in all sections of the country. The policy of achieving a wide distribution of authorship of reviews is similar to that maintained for authorship of articles. With respect to reviewers, as well as in other matters, the *School Review* endeavors to serve as a national journal in its field.

The number of reviews published in a single volume of ten issues has just been reported as almost eighty. Because of the occasional practicability of composite appraisal in a single review of two or more publications on the same subject, the number of books, monographs, bulletins, and series represented in the reviews of a single year is nearer ninety than eighty. In harmony with the subtitle of the *School Review*, the bulk of these reviews deal with publications pertaining to secondary education in its many aspects, among these being curriculum, extra-curriculum, methods of teaching, psychology, testing, supervision, organization, administration, pupils, guidance, athletics, teachers, and housing. The aim here is to have the scope of the reviews as broadly representative of the whole field as is the literature published. The reviews include not only publications suitable for the use of administrators and teachers but also textbooks and other books usable by pupils in secondary schools. The ten issues for 1932 included more than thirty reviews of books for the use of pupils in such subject fields as English, history and the other social studies, science, mathematics, foreign language, business, industrial arts, and home economics. While the emphasis has been on publications related to secondary education, books of more general significance have been represented in the reviews—for example, books on school finance, theory of education, educational psychology, and foreign education—with the purpose of keeping those immediately concerned with secondary schools in touch with some of the better books in the more general field. Because of the interrelations of secondary and higher schools, typical books dealing with higher education have also been represented in the reviews.

A few other elements of the policy touching reviews may be mentioned. Only

signed reviews are published. This practice is followed because readers are entitled to know who is essaying appraisal of a given book and because even a reviewer of distinction should be prepared to vouch for what he says concerning a book. All manuscripts of reviews are invited. In the course of a year a number of unsolicited manuscripts of reviews are submitted to the editors by persons not conversant with this item of policy. All unsolicited reviews are declined regardless of apparent merit, the better to safeguard the intent to publish only disinterested reviews. The objective in extending invitations to prepare reviews is a *disinterested scholarly appraisal*. With this objective in mind, no person is asked to prepare a review if any motive other than scholarly appraisal might be expected to influence what may be written.

A word should be said concerning the relation of reviews in the *School Review* to those in the *Elementary School Journal*. While the *School Review* plays up the literature of secondary education, the *Elementary School Journal* emphasizes in its reviews the phases of education stressed in its articles, namely, elementary education and school administration. Both journals extend the review lists to include many general items and items in special fields not emphasized, but readers will only occasionally find reviews of the same books in both journals. In the few instances when reviews of an identical book are published in both periodicals, the two reviews are by different authors. This practice of differentiating the lists of books reviewed affords the reader of both journals, in the course of a year, appraisement of 150 and more books, monographs, bulletins, or series—an unusually comprehensive review service among educational periodicals. This co-operative arrangement is analogous to that provided in the cycle of twenty annual lists of selected references recently launched by these two journals. Other features in the policy touching reviews in the *Elementary School Journal*, such as the distinction and national distribution of reviewers and the publication only of solicited reviews, are similar to those maintained by the *School Review*.

It may not be inappropriate to make the following summary statement concerning certain aspects of the book-review service afforded by the *Elementary School Journal*. During the past two years this journal has published approximately 155 separate reviews of somewhat more than 165 different books, monographs, bulletins, or series of books. These reviews were prepared by somewhat more than ninety different reviewers. Each year the reviewers had professional connections with approximately thirty different institutions and organizations located in every section of the country. For the two years combined forty-five different institutions and organizations were represented. For 1931 these were located in twenty different states and one foreign country, and for 1932 in fifteen different states.

THE REPORT OF THE JOINT COMMISSION ON THE
EMERGENCY IN EDUCATION

Early in January the officers of the National Education Association and of the Department of Superintendence appointed the Joint Commission on the Emergency in Education. The commission met promptly and formulated a program of action. The following paragraphs are quoted from the report of the commission presented to the Department of Superintendence at the Minneapolis meeting.

The situation created by the depression has confronted the schools with a variety of difficult problems. These have been aggravated by the disposition of certain shortsighted and selfish interests to use the depression as a cloak for an attack upon our system of free public schools. We recognize the present situation as a serious emergency, which calls for emergency action.

Accordingly, the commission has organized as a board of strategy. It will serve as a rallying point for the forces made up of teachers, parents, and public-spirited citizens interested in the maintenance and improvement of America's system of free public schools. The commission is organizing so as to be able to exert the full force of the million members of the teaching profession, and of the many millions of parents and citizens interested in preserving the idea of free public education, and of making that idea increasingly articulate in improved schools and colleges. It will not shrink from taking the offensive in cases where that seems the thing to do. It will not forget that it is representing a profession. It will not hesitate to use practical methods to make the influence of the profession felt. We have been meek long enough. The time has come to go out against those who, because of selfishness or ignorance, or both, would make children the victims of the depression.

The commission is taking the initiative in dealing with certain educational problems of common concern to all, which can be most effectively dealt with on a national basis. It recognizes clearly, however, that its program will be most influential and helpful if it works in close co-operation with, and through, the school systems and educational organizations of the various states and localities. It will profit from the effective work which is already being done by these agencies, will seek to pool their experience and to develop plans for united action.

We will call upon those in all ranks of the profession for advice and counsel as we proceed. We will need their aggressive support and will expect to have it in carrying out action decided upon.

There is sufficient time to permit a few indications of the program which has already been outlined and part of which has already been put into action.

It was decided that, instead of shrinking from the attacks which are being made upon public education, we should meet its challengers on their own grounds. Accordingly, a project is being organized whereby the public in general will be encouraged to give answers to the questions which are being raised

concerning the purposes and scope of public education. For example, do the parents of this nation want, or do they not want, free public high schools? Does the principle still hold that every child shall be provided the particular opportunities which are required in order that he may develop such talent as he may possess? We will seek mandates from the rank and file of parents and of citizens on questions such as these.

This project is based on the principle that, if the purposes, scope, and procedures of public education are sound, they will bear scrutiny even in a time of depression and that such scrutiny will strengthen the position of the schools. If the purposes, scope, and procedures of public schools are not sound, then the sooner it is known, the better.

Already material has been prepared and plans for this campaign of educational appraisal have been outlined. You, and others in the field, will hear about them soon.

In another project we are seeking to gain an accurate appraisal of the methods which are being used by the schools in dealing with the difficulties which have resulted from the depression. A collection of bulletins and publicity materials issued by schools with depression problems in mind have been assembled from all over the nation. . . .

A survey has been made of the national organizations, publications, and other agencies which are exercising influence, or which might exercise influence, on the development of education. We expect to know more accurately who is for, and who is against, free public education, and why. We will use the information gained on these questions.

We are greatly encouraged to discover how many groups are ready and anxious to fight for the American, and opposed to the European, idea of what a school system should be. We are interested in what we are beginning to find out as to the sources of the propaganda which is now appearing against education.

We are giving particular attention to the matter of educational publicity. Many states and localities are now doing excellent work in this field, as the exhibit already mentioned clearly reveals. But there are some places where the contact of the school with the public needs to be placed on a more effective basis. We are now developing and will widely disseminate material designed to assist in bringing this about in all areas—local, state, and national.

The commission is immediately seeking the active aid and aggressive support of all organized groups of the profession. We have developed plans to get in closer touch with many of our national and state organizations through a series of regional conferences, to which the executive heads of these organizations will be invited. Through these regional conferences we plan to reach the state commissioners of education, the executive officers of state educational associations, the presidents of all the departments of the National Education Association, and the officers of numerous other societies, committees, and commissions. We are also planning to ask the members of the executive committee of the Department of Superintendence to participate in one or more of these regional conferences.

At these conferences the program of our commission for the defense of public education will be presented. An occasion will be given for the presentation of problems and plans of state groups and national groups. Our commission hopes to serve as a co-ordinating committee for the efforts of various professional bodies. It is anticipated that the discussions in these regional conferences will tend to strengthen the determination of the leaders to make a vigorous defense of the educational rights of children. May we urge that our professional organizations stand ready to pay the expense of the attendance of their officers at these regional conferences. We do not have the financial resources to bear such expense.

Through conferences with professional and lay groups, our commission hopes to build within the next few months a powerful organization committed to the patriotic and unselfish task of saving the schools and protecting the educational interests of growing children. In such an undertaking we anticipate the enthusiastic support of millions of teachers, parents, and other patriotic citizens, and the active opposition of certain selfish groups who are willing to place their financial interests above those of the great mass of American citizens.

Special attention is called to the following passage of the commission's report.

We believe that there should be no question anywhere as to what is the spirit of the teaching profession at this time. A serious emergency confronts the whole nation. Millions are out of work. What is the duty of teachers in such a period?

In such a time it is the duty of teachers and all public servants to reduce public expenditures to the lowest possible cost consistent with the maintenance of essential services. This is being done by the schools. Nonessentials have been eliminated. Rigid economy is being practiced. The size of classes has been increased. Salaries have been lowered. In some communities even essential parts of the school have been discontinued. Terms have been shortened. In some sections the schools have been closed.

In some communities the depression is creating a situation where the members of our profession must choose between depriving the pupils of essential educational services or of making heavy sacrifices of our time, energy, and personal resources. When it becomes clear in any community that these are the only alternatives, but one choice is possible for our profession. We would prefer to make personal sacrifices rather than to have children denied their educational birthright. It is this loyalty to children that has won for teachers in many communities the admiration of parents and that has paved the way for effective cooperation in the defense of the schools.

Health service, kindergartens, libraries, night schools, and other indispensable educational offerings must be maintained. The integrity of the public school must be guaranteed at any cost. This is of first importance if the morale of parents is to be maintained during this difficult period and if the children of the nation are to be prepared to meet the problems that lie ahead.

CITIZENS' COUNCILS FOR CONSTRUCTIVE ECONOMY

At the call of the President of the United States, a group of citizens representing labor, agriculture, business, industry, education, and other public-welfare agencies met in Washington on January 5, 1933, to consider the crisis in education. One of the recommendations of that conference was that there be set up in every community a broadly representative citizens' council for the purpose of clarifying and mobilizing public opinion on all matters of vital concern to the community. Following this suggestion, the representatives of a large number of national organizations are sponsoring "the formation of a citizens' council in every municipality and county to work for the maintenance of essential community services and for constructive economy in local and state government." The following statement has been issued by the representatives of these organizations.

The existence of many public and semi-public community services is threatened. Institutions and activities which have been considered the best evidence of our advanced civilization are being greatly curtailed, and in many places actually discontinued. Taxpayers are demanding cuts. Officials are forced to make them. What can be done about it?

Our answer is: Organize local and state citizens' councils to consider the problems of maintaining essential community services in the face of the need for reduction of public expenditures. The objective of such councils would be to promote interest in local and state governmental problems, to the end that the present widespread demands for reductions may produce actual and permanent improvements in government, the tax system, and the services rendered by public and semi-public agencies.

The local organization proposed will be called a "Citizens' Council on Constructive Economy." It will be composed of representatives of local groups interested in good government, such as the league of women voters, the parent-teachers' association, women's clubs, labor groups, luncheon clubs, chamber of commerce, and other similar groups. It will also include representatives of public and semi-public boards, such as those concerned with schools, libraries, playgrounds, museums, health, welfare, and local colleges and universities. Each council will be autonomous. Its purpose will be to secure for the public the greatest possible benefit from the expenditure of public funds.

The national organizations issuing this statement will ask their members to participate in the formation of local councils. They will also send to their members suggestions as to how the councils may carry on their activities.

The citizens'-council idea grew out of informal conferences in New York, Chicago, and Washington, following the Citizens' Conference on the Crisis in

Education, called by President Hoover in January. This movement is not, however, concerned with any particular service. It is an attempt to bring into existence councils of local organizations interested in all the services, in good government, and in real economy. Misinformation is rampant. It is expected that the first effort of each local council will be to get the facts about costs and wastes of local government and actual services performed, as well as demands for service, and to pass these facts on to the members of the organizations which the council represents. When there are recommendations to be made to public authorities, whether for elimination of waste or improvement of a service, the Citizens' Councils, in co-operation with constituent citizen groups, will speak for the public at large, with adequate consideration of the city's needs and obligations, and should be able to secure such action as is clearly in the public interest.

A clearing-house for information about Citizens' Councils for Constructive Economy will be maintained in the office of the National Municipal League, 309 East Thirty-fourth Street, New York City.

This statement is issued on behalf of the following persons:

R. K. Atkinson, Director of Education, Boys' Clubs of America, Inc

Frank Bane, Director, American Public Welfare Association

Helen Beckley, Executive Secretary, American Association of Hospital Social Workers

Paul V. Betters, Executive Secretary, American Municipal Association

George F. Bowerman, Librarian, Public Library of the District of Columbia

Mrs. Hugh Bradford, President, National Congress of Parents and Teachers

Louis Brownlow, Director, Public Administration Clearing House

Allen T. Burns, Executive Director, Association of Community Chests and Councils

Harold S. Bутtenheim, Editor, *The American City*

Bert W. Caldwell, Executive Secretary, American Hospital Association

Morse A. Cartwright, Director, American Association for Adult Education

Carl H. Chatters, Executive Director, Municipal Finance Officers' Association

H. V. Church, Executive Secretary, Department of Secondary-School Principals of the National Education Association

Laurence V. Coleman, Director, American Association of Museums

Kendall Emerson, Acting Executive Secretary, American Public Health Association; Managing Director, National Tuberculosis Association

Ray Tife, President, American Vocational Association

Michael F. Gallagher, Chairman, Trustees Section of the American Library Association

Luther H. Gulick, Director, Institute of Public Administration

Arnold Bennett Hall, Brookings Institution

Lee F. Hanmer, Russell Sage Foundation

Mrs. Florence Curtis Hanson, Secretary-Treasurer, American Federation of Teachers

C. L. Harrington, Executive Secretary, Association for Progress through Libraries

A. R. Hatton, Professor of Political Science, Northwestern University

Fred Hewitt, American Federation of Labor

William A. Howe, Secretary-Treasurer, American Association of School Physicians

Robert Maynard Hutchins, President, University of Chicago

Rev. George Johnson, National Catholic Welfare Conference

Howard P. Jones, Public Relations Secretary, National Municipal League

Charles H. Judd, Dean, School of Education, University of Chicago

Robert L. Kelly, Executive Secretary, Association of American Colleges

Howard R. Knight, General Secretary, National Conference of Social Work

Loula D. Lasker, Associate Editor, *The Survey*

Kathryn McHale, Director, American Association of University Women

C. R. Mann, Director, American Council on Education

Carl H. Milam, Secretary, American Library Association

E. D. Mitchell, Secretary-Editor, American Physical Education Association

James A. Moyer, President, National Commission on the Enrichment of Adult Life

R. M. Paige, Secretary, Governmental Research Association

Mrs. Grace Morrison Poole, President, General Federation of Women's Clubs

Milton C. Potter, Superintendent of Schools, Milwaukee, Wisconsin

Thomas H. Reed, Chairman, National Municipal League's Committee on Constructive Economy, and of Committee on Policy, American Political Science Association

Clarence E. Ridley, Executive Director, International City Managers' Association

Belle Sherwin, President, National League of Women Voters

Flavel Shurtleff, Secretary, National Conference on City Planning

Donald C. Stone, Director, National Committee on Municipal Standards, adviser to International Association of Public Works Officials

Fred Telford, Director, Bureau of Public Personnel Administration; Secretary, Civil Service Assembly of the United States and Canada

Rev. Worth M. Tippy, Executive Secretary, Department of Church and Social Service, Federal Council of the Churches of Christ in America

Henry W. Toll, Director, American Legislators' Association

Levering Tyson, Director, National Advisory Council on Radio in Education

Walter West, Executive Secretary, American Association of Social Workers

MR. HEARST AND THE "SATURDAY EVENING POST": CON-
FLICTING ATTITUDES WITH RESPECT TO THE SUPPORT
OF PUBLIC EDUCATION

The following correspondence reveals a fundamental difference in the points of view held by two of the nation's leading publishers with

respect to the support of public education. The first letter reproduced is one from William Randolph Hearst to the editor of the *Herald and Examiner*, Chicago. Mr. Hearst, it will be recalled, is the owner of the chain of Hearst newspapers. The letter follows:

Education has been the basis of American progress, and now, at the moment when foreign nations have realized the importance of education and are making great progress in educating their people and fitting them for world competition, we are curtailing our education program.

Education is not merely for the upper classes.

The reason the American workman has been able to compete successfully is because of his educated intelligence.

The reason our nation has been successful is because of the high average of intelligence of the electorate.

No democracy can succeed, and no nation can compete under modern conditions, without an intelligent and educated citizenry.

This depression is only temporary, but the effect of restricting education will be permanent.

Use your best efforts to prevent curtailment of school expenses. Try to secure the same progress in these days of depression that we would have made in good times.

The depression should teach us that if we had a sufficiently educated and enlightened electorate we might be able to obviate such catastrophes.

I think the matter is of prime importance.

On February 1, 1933, the following letter was addressed to the editor of the *Saturday Evening Post* by the faculty of the Moseley School, Chicago.

We, the teachers of the Moseley School, Chicago, appeal to the Curtis Publishing Company to assume a fair and sportsmanlike attitude toward education and to present both sides of the argument regarding expenditures for public schools.

Edwin Lefevre, in the January 28th issue, tells of a teacher who was indignant because her December salary was not paid and she could not go to Bermuda. The fact is that Chicago teachers have not been paid since May, 1932, many are receiving charity because their funds have been exhausted, and tax warrants which were issued them for December, 1931, and months previous to that were sold in many cases at 30 per cent discount. A similar situation exists in many other cities, and the large majority of teachers are not thinking of Bermuda but are living under a severe mental strain due to actual want, suffering, and anxiety for the future.

An editorial in the January 14th issue states that schools are becoming country clubs, that many institutions have gymnasiums and shower baths. A sur-

vey would show that most schools are sadly in need of adequate facilities in the teaching and maintenance of health, which is considered of paramount importance by leading educators.

Mr. Sargent, in the same issue of your magazine, indicated that the civic-minded citizens of Chicago would not permit the city to go into default on an \$18,000,000 bond issue, that they would come to the rescue and save the situation. He was advocating economy in government. He did not state that the bonds were to be changed from 4 per cent to 6 per cent, nor did he explain how such a change would tend to reduce the expenditures of municipal government. . . .

We believe that true recovery in national as well as municipal affairs can be brought about only by publishing all the facts, by permitting criticism and careful analysis of the same, and by gradually bringing about reorganization of every vital branch of government, commerce, and industry. To shift criticism to public education is merely drawing attention away from important issues which are in need of immediate attention.

Would you publish an article in the *Saturday Evening Post* which presents the teachers' side of the case? We believe that we can submit an article which would be of interest to your readers.

The editors of the *Saturday Evening Post*, on February 3, 1933, replied as follows:

We are in receipt of your letter of the 1st. You have apparently read into Mr. Lefevre's article a meaning and intention that were not in his thoughts when he wrote it, nor in ours when we published it. His article was not a criticism of teachers or of teaching. Nor did Mr. Lefevre question the abilities or the devotion to their calling of the average teachers. His criticism was directed at the increasing number of extra-curriculum activities that the taxpayer has been forced to pay for in recent years, and which he cannot afford under present conditions, and at over-elaborate plants. His remarks naturally did not apply to schools that do not have over-elaborate plants. He cited the case of the local teacher, not primarily because she was a teacher, but because her attitude to the financial crisis in her town was typical of the tax-blindness he was about to discuss. She entirely overlooked the vitally important fact that the schools in many cities and states, like other units, have been taking much more money than the taxpayer can afford to pay. One need only look over the list of delinquent taxes and tax sales to see that there must be retrenchment all along the line if the farmer and the small home owner are to get relief. What Mr. Lefevre wanted to bring out was that taxpayers have rights that cannot be ignored, even in the name of education. Retrenchment is a necessary step if our country is to get its national and local affairs on a solvent basis.

Mr. Lefevre's article is a survey of the present tax crisis, and a discussion of the possible means of meeting it. His comments on the high cost of education

were merely incidental in his review of national extravagances that have combined to place an unbearable burden on the American taxpayer.

We do not see how any intelligent reader who has the good of his country at heart and has any knowledge of present-day conditions can take a different position.

The writer of this letter attended the old Moseley High School for four years. It had a staff of excellent teachers, some of whom would rank at the top in almost any educational institution, and it graduated many men who were heard from in the professions and in the world of affairs in after-life. In those days, however, its activities were confined to giving those who attended it a solid education. We have no doubt that it serves the same admirable purpose today.

THE NATIONAL SURVEY OF SCHOOL FINANCE

In 1931 Congress appropriated funds to be employed in making a nation-wide survey of school finance. The survey was planned to cover a period of four years, but Congress failed to make an appropriation for the second year. For a time it appeared that the major lines of investigation undertaken in the survey would have to be abandoned. Abandonment was prevented, however, by a grant of \$25,000 from the General Education Board, which enabled the survey staff to carry to completion part of its original program: The findings of the survey have recently been published in three volumes: (1) *State Support for Public Education*, (2) *Research Problems in School Finance*, and (3) *Bibliography on School Finance, 1923-1931*. The first of these volumes may be secured from the American Council on Education, 744 Jackson Place, Washington, D.C., for \$2.00. The second may be secured from the same source for \$1.00. The third is published as Bulletin Number 15, 1932, by the United States Office of Education at a price of 20 cents.

Something of the scope and content of the volume on *State Support for Public Education* may be gathered from the following quotation from the Introduction.

Chapter ii gives an historical treatment of the two fundamental principles underlying state school support. The reading of Chapter ii is not essential to the understanding of the remaining chapters.

Chapters iii through x present a detailed analysis of the present financial systems in the various states, including such an appraisal as will indicate in detail what are believed to be the next steps in the improvement of the programs of the individual states. The first of this series, chapter iii, shows the present minimum program offered in the states and compares it with the minimum

program which the experience of its own communities would justify the state in providing. Chapter iv appraises the measures now used for distributing state aid in each of the states, the appraisal being given in sufficient detail to bring out the shortcomings in the measures now used, as related to attainable standards of equity. Chapter v gives a similar appraisal of measures of relative ability of local districts to support schools, the appraisal being made in terms of attainable standards. Chapter vi appraises the equitableness of the equalization of burden in the various states. Here, again, the standard for comparison is the practice in the individual state judged in the light of attainable standards of equity in the state itself. Chapter vii gives an analysis of financial provisions for local initiative in the various states. Chapter viii deals with the problem of safeguarding local expenditure of state funds. Chapter ix analyzes present methods of allotting state funds and the methods of determining the state's share in school support. Chapter x discusses the various issues that must be considered in improving state school support programs in individual states.

The chapters outlined above are followed by supplements which give basic material and describe methods of treatment of data. Supplement I gives data on the financial statistics of state school systems in five-year periods, from 1910 to 1930, inclusive, and the trends of expenditure for schools and other governmental functions. Supplement II gives a full account of the provisions for transportation and non-resident tuition in the various states. Supplement III describes the methods that were used in the development of the national pupil-teacher index and gives information which should be valuable to anyone who intends to use this index. Supplement IV describes in detail the method by which the formula for determining the relative costs of maintaining comparable schools in the various sections of the country was derived. Supplement V gives a description of six state apportionment laws, each representing a different type, and also outlines the changes which have been made in state apportionment laws since they were described by Swift and Zimmerman.

Throughout the report the attempt has been made to appraise present practices in terms of attainable standards of equity. Although the facts on a given topic for all the states are listed in the same table, they are arranged for ease in reference and not for comparative purposes. In most instances the data for the various states are comparable from a practicable point of view, but this fact is not emphasized in the report. In other words, the investigations reported in this volume have not sought to develop indexes by which states could be compared one with another. The purpose has been rather to appraise each state in terms of justifiable and attainable standards. These justifiable and attainable standards were, wherever possible, determined by practices of communities within each individual state. The task ahead is not to bring all states into the same pattern of practice. It is rather to have each sovereign state accept responsibility for meeting attainable standards acceptable to its own people and for meeting those standards in ways which are in harmony with their thinking

ADDITIONAL EVIDENCE OF THE EFFECTIVENESS OF TEACHING
BY MEANS OF MOTION PICTURES

The following statement of Henry W. Holmes, dean of the Graduate School of Education, Harvard University, describing the results of an experiment in the effectiveness of teaching by means of sound motion pictures, was published in a recent issue of the *New York Times*.

The study was made possible by the Carnegie Foundation for the Advancement of Teaching. Dr. Henry Suzzallo and his associates wanted the Harvard Graduate School of Education to get an answer to this specific question: How much, if at all, do sound films increase the effectiveness of teaching?

Obviously, to get an answer to that question which would be at all valuable meant having the best possible films and using them under ordinary school conditions in direct competition with teaching by the usual methods. To get the best possible films the School of Education turned to J. A. Haeseler, director of the University Film Foundation, an organization associated with Harvard University and devoted exclusively to the production of scientific and educational moving pictures.

To set up the requisite experimental conditions in the schools, devise the necessary tests, prepare the necessary materials and conduct the study, the school turned to Dr. P. J. Rulon of its own faculty. The following paragraphs are drawn in large part from Dr. Rulon's preliminary report of his work. His final report will be published during the year as one of the Harvard Studies in Education.

Dr. Rulon organized in three cities near Cambridge three distinct groups of children. They were all in the ninth grade and equal, within narrow limits, in previous instruction in general science and in their scores on a standardized test in general science. They were of approximately the same age, they came from communities of the same type, and they attended the same sort of public school. Finally, two of the groups studied the same material ("The Earth and Its Life") for the same length of time at the same time of day under teachers equal in pedagogical skill and personal enthusiasm.

One group, called the "control group" (1,241 pupils), studied the textbook in the usual manner. The second group, the "film group" (443 pupils), studied the same text, but for fewer hours per week, devoting the remaining time to looking at films. The films, of course, paralleled and illustrated the text. Authorities from the scientific departments of the Harvard faculty talked from the screen, explaining the pictures. The third group, called the "zero group" (296 pupils), did not study the text or see the pictures or have any instruction on this topic.

All three groups were measured at the end by tests carefully devised and standardized to disclose how much had been learned on the particular topic

covered by the text and the films. After three months—to allow for forgetting—the tests were repeated.

It may be said with practical certainty that this experiment was scientific enough to be conclusive. If films increase learning in any substantial degree, that fact should have appeared without the least doubt or question. And it did.

In the tests given immediately after the six-week period of instruction, the film group exceeded the control group in its total score by 20.5 per cent. On the average, in other words, the children taught by films learned one-fifth more than the children taught without.

And they retained about two-fifths as much more; for on the tests given after a period of three months the film group exceeded the control group in its total score by 38.4 per cent. Statistically speaking, these figures are decidedly significant. Practically speaking, it means that the film technique is markedly superior to ordinary textbook teaching.

Some of the more detailed results of this experiment have a peculiar interest. It appears, for example, that the films are rather better for physiography than they are for biology, although good for both. Perhaps it is hard to learn from a textbook how the crust of the earth was formed and how rocks developed. Certainly, moving diagrams and pictures of actual rock formations accompanied by skilful explanation from the screen seemed to make this material very much clearer to the children.

The film group beat the control group on this material by 33.4 per cent on the tests at the end of the instructional period and by 71.2 per cent on the retention tests. In biology, the immediate gain was 13.4 per cent and the final gain 23.2 per cent.

Another interesting distinction appears between scores on test items that were answerable by reference to the text alone and scores on test items that were answerable by reference both to the text and to the films. On items in the test which could be answered only by reference to the text, the film group fell behind the control group, showing a gain 14.7 per cent less than that of its competitors. But this was made up on the tests for retention after the three-month period. The film group retained 0.5 per cent more on the purely text items in the retention test than did the control group.

It should be remembered that the control group was studying the text during the entire time when the film group was looking at the pictures. Somehow the film group must have got a better grasp of the whole business if it could remember after three months even 0.5 per cent more of purely text items than the control group remembered.

Perhaps the most interesting of the detailed results of the experiment arose out of the attempt to separate the test items into those which measured rote memory and those which measured knowledge of relationships. The idea was to distinguish between questions which require mere memorization (for example: How many stars are visible on a clear night? Answer, 2,000) and questions

which might be answered by thinking on the basis of some solid background of knowledge (for example: Do steep streams wear their beds faster than those not so steep?).

Now it is on this distinction that the most interesting difference appears between the film group and the control group. On items of fact the film group was superior to the control group by 14.8 per cent on the immediate tests and 35.2 per cent on the retention tests. On the items that test grasp of relationships the film group was superior by 24.1 per cent immediately and by 43.1 per cent in the end.

It is quite evident that the often-heard criticism of the films—they may teach the children a lot of unrelated facts, but they don't make them think—is not borne out by this experiment.

In sum, it may be said that the Harvard study proves that talking films are a powerful instrument of instruction.

Masters of exposition may speak from the screen and the classroom teacher may have a new and different, but perhaps not less important, part to play in the new teaching in which films are used. But as yet we do not know the relative value of texts or teachers in different subjects at different levels.

THE SCIENTIFIC DEVELOPMENT AND EVALUATION OF THE CURRICULUM^{*}

CHARLES H. JUDD
University of Chicago

There was a curriculum before there was a science of education. The first school ever established came into being because someone had something to teach. The something taught was the curriculum. As generations passed and society accumulated the arts and letters and sciences which make up civilization, the curriculum broadened, but the broadening has taken place, in the main, without any systematic effort to evaluate the contents of the teaching program. It was not on the basis of scientific analysis of the mental processes of children, nor on the basis of scientific study of the social order, that the early settlers of New England decided that their children should learn to read the Scriptures. When higher education was first organized on this continent, it adopted, without any effort at scientific justification, the classical-mathematical curriculum which had come down from the Renaissance. Not until the most recent times has the curriculum of the American educational system been subjected to scientific scrutiny.

In order that we may understand the present-day efforts to reconstruct the curriculum on the basis of sound principles derived through systematic studies, I must ask you to tolerate a brief historical discussion which will make clear when and how the scientific study of the curriculum began.

The decade from 1890 to 1900 was a period of upheaval in American education. For generations the schools of this country had exhibited extreme conservatism in methods of teaching. The curriculum of the common schools had been meager in content. Education above the level of the elementary school was the privilege of the few.

^{*} Address delivered on March 1, 1933, before the joint meeting of the Department of Superintendence of the National Education Association and the American Educational Research Association.

During the years following 1890 a new spirit began to make itself manifest. The Herbartians were advocating new methods of teaching. The child-study movement was arousing widespread interest in types of experience which had never been thought of as appropriate to schools. Dewey was calling attention to the changes in society which created a demand for a new type of school. Eliot and the other members of the Committee of Ten were organizing high schools. Parker and Harris were contributing to the liberalizing of the elementary school. Toward the end of the decade Rice was testing spelling and arithmetic with results which constituted an indictment of current teaching in those fields and strongly suggested reform.

The outcome of the decade of agitation from 1890 to 1900 was, in an important sense, negative. It is frequently true that science must first tear down before it can begin to build up. When a school system has complacently followed traditional methods for long generations, the first move which must be made is a move to put an end to complacency.

The first fifteen years of this century continued the attack on traditional education. Methods of testing and measuring school results were devised and refined, and, through the application of these methods of exact evaluation, new grounds for discontent with established practices were discovered. By 1910 the survey movement began to develop, and wholesale recommendations were made for the reform of school systems. It was easy in those early days to discover, by tests and measurements, points in any school system where improvements could legitimately be recommended.

It is not in keeping with the facts to say that the reformers of the last decade of the nineteenth century and the contributors to the science of education who carried on studies during the early years of this century produced nothing but negative results. Fruitful suggestions were offered, and highly productive experiments were undertaken in the effort to provide substitutes for the formal and unproductive methods which were criticized and discarded. Gradually the volume of constructive measures increased until about 1915, when a vivid consciousness of the demand for a new body of instructional materials opened the present era of vigorous reconstruction of the curriculum.

The curriculum movement has been reinforced by the insistent demand for new types of instruction resulting from the appearance in the upper grades of the elementary schools and in the high schools of a great variety of new types of pupils. If there had been no science of education, the social pressure of these new types of pupils would have compelled revision of the curriculum.

The final effect of criticisms of traditional practices and of suggestions offered by reformers was the inauguration of a number of scientific studies which made positive contributions to the curriculum. Some of the outstanding positive contributions to curriculum reconstruction made through scientific studies are as follows:

Instruction in spelling has been completely reorganized in recent years. The lists of dictionary words formerly used to drill children in combinations of letters have disappeared. Their place has been taken by lists of words which science has shown to be the words most commonly employed in ordinary life. Authors of reading materials are guided by word lists. Teachers of foreign languages are now supplied with word lists and idiom lists which save them from over-attention to comparatively useless phases of their subjects. Makers of textbooks in history base their writings on carefully prepared lists of people and events.

It has doubtless been true from the beginning of schools that teachers have collected materials to use in their courses. The contribution which science has made is emphasis on orderly procedure. The search for available and useful materials is carried on more energetically and more systematically at the present time than ever before. The search is commanding the time and the services of many workers, who are laying broad foundations for the educational structure.

Another type of positive scientific contribution has been made through analysis of the practical situations in life for which education must prepare. "Job analysis," as this procedure is called, has brought into the schools items of instruction which would have escaped the attention of teachers if they had thought only of immature learners. Job analysis has been successfully applied in revising the curriculum in the practical arts and in such professional lines as secretarial activities. Broadly conceived, job analysis means the intelligent anticipation of the requirements of later life. Instead of

waiting until social compulsion forces a revision of the curriculum, the schools are today making a study of the demands which later life will make on their pupils.

Another type of contribution made to the curriculum by the science of education is somewhat more subtle than the two types which have been mentioned. Science has given teachers certain valuable distinctions, the understanding of which is essential to successful teaching. Thus, one of the most brilliant demonstrations of the value of science was given when laboratory experiments proved that oral reading and silent reading are so different in character that the school is not justified in limiting instruction to oral reading. Before this distinction was clearly drawn, the school aimed somewhat indefinitely at a goal which was vaguely thought of as fluent reading. When laboratory experiments showed unequivocally that silent reading is far more fluent than oral reading, a new and highly useful distinction was supplied for the guidance of teachers.

One might go on enumerating the positive contributions of science to the modern curriculum. There is evidence in abundance that improvements are now being effected in rapid succession. It is difficult to estimate the true value of many of these improvements. They are so new that their effects on the educational system cannot now be estimated. It will require the perspective of years to make their values fully apparent.

I am not so much interested, however, at this time in chronicling all that the science of education has accomplished as I am in seizing the opportunity to enlist, if possible, the co-operation of the members of the Department of Superintendence in the larger reconstruction of the curriculum which I believe is imminent. If this department would assume the leadership which is its proper function in view of the fact that its members are the administrative heads of American school systems, there would come to pass in the immediate future a significant systematic reorganization of instruction in the schools of this country which would take advantage of all that the past few decades have taught regarding the defects, virtues, and needs of our educational program. I address myself, therefore, to the future. The historical review is at an end. The history of the schools, like the history of society in general, has reached a turning

point. The proper order of the day is farsighted, constructive, energetic striving for a newer and more productive world.

The major thesis which it is the purpose of this paper to defend is that the reconstruction of the curriculum of the schools calls for the adoption by educators of a new and more comprehensive view of the science of education than has been accepted up to this time. The studies which have been made by the science of education have been of value, but their scope has been limited. The time has come to recognize the fact that the school can be understood and can be properly directed in its activities only when it is viewed as a part of the general social order. To become sufficiently comprehensive, the science of education must ally itself with the whole family of the social sciences and must draw on political science, economics, anthropology, and sociology for methods and materials.

From the broader point of view thus contemplated, the school is seen to be society's agency for transmitting to each new generation the accumulated experiences which have resulted from the long struggles of the race. May I dwell for a moment on a single illustration. Human beings have found that no social group can survive without some form of government which subordinates individual desires to the regulations of society. The crudest bands of pirates and robbers who have broken away from the control of the civil state immediately find it necessary to adopt and enforce codes of laws which are often far more drastic within their spheres of application than are the laws of any civilized state. It would be highly wasteful of human effort for each generation to spend itself in learning the lessons of law and order through the friction of conflict. Society, therefore, has set up in the school an institution where regulations are tempered by sympathetic patience and youth is systematically inducted into organized society. In the best-organized communities even criminal law is administered through the juvenile court in the spirit of the school. One gets a wholly new view of school discipline when one thinks of it as a method of introducing immature individuals to the ways of society.

It is the broad view of the school as a social institution which supplies, I believe, the formula for the reconstruction of the curriculum that we have all been seeking. The absence of a general for-

mula has made many of the recent curriculum studies unproductive. I must be critical of much which has been going on in the school systems of the United States in recent years. Tons of paper have been used in the publication of curriculums which seem to have little or no virtue except that they show the desire for recognition on the part of some superintendent or some specialist in curriculum revision. Many of these revised curriculums are the products of diligent plagiarism. Few of them have achieved, in any degree, integration of the subjects with which they deal. The volume on arithmetic, for example, is often filled with trite formulas which have long confused pupils in their efforts to understand fractions and other arithmetical intricacies. What is needed is a new treatment of the materials of instruction which will integrate arithmetic with history or literature.

The example of arithmetic is the one which always comes to mind when one is trying to find a striking illustration of utter lack of social understanding. Arithmetic is the subject by means of which schools achieve more failures than are brought to pass in all the other subjects taught in the upper grades of the elementary schools. Arithmetic is capable of use as an instrument of intellectual execution with an exactness and finality which cannot be approached by any of the interesting subjects in the curriculum. Arithmetic has been little improved since Warren Colburn in 1821 made the textbook which has been imitated again and again with distressing monotony for more than one hundred years.

Some day we shall see arithmetic made into an interesting chapter in a new curriculum. We shall explain to pupils with suitable illustrations how the race strove during long millenniums to count its possessions and calculate with pebbles and with number systems which were utterly incapable of meeting the demand of precision essential to well-organized commerce and industry. We shall no longer rush through the tables of denominate numbers in order to cover a certain stipulated section of arithmetic in a stated period of time. We shall show children how the yard and the quart came into existence in order that men might deal with one another equitably. We shall, in that not very distant day, teach children that insurance is a social device for transferring the risks of life to the broad shoulders of the

group and that taxes, which we nowadays cordially abhor, are essential to the support of community life.

It is nothing less than a crime that arithmetic has been considered by teachers to be a subject of mechanical drill. Arithmetic is one of the greatest inventions which society ever brought into being and refined through generations of use. Arithmetic is a method of thinking. Equipped with this method of thinking, which no individual could possibly have devised for himself, the modern man and the modern child can perform intellectual and practical feats which would have astounded their forbears.

I repeat the statement which I made a few minutes ago: The school curriculum must be thought of as a phase of the social order. That the curriculum may be adequate, its framers must study the social order with the aid of all the scientific methods available. The curriculum is a body of perfected social devices for making man what he is—master of the world in which he lives.

Scarcely are the words about mastery of the world uttered before the pall of a dark conviction settles over the mind of every one of us. We are, in some measure, masters of the world of things, but in the world of human relations we can make no claim to anything approaching complete wisdom or control. In troubled times like the present we are all conscious of the need for more understanding of social forces and of social controls. The school must bear some share of the blame for present-day lack of general intelligence with regard to social, political, and economic problems. So conscious are the schools of their failure to include social, political, and economic training in the curriculum that in many systems syllabuses are being hastily prepared containing references to sociological studies of the family, to the findings of political science, and even to books on banking and finance. Teachers are urged to invent without delay a social order which may be installed within the next few days in place of the capitalistic system and in place of tariff-protected industry. The words "inflation" and "deflation" are used familiarly by sixth-grade pupils, if not by second-grade children.

The difficulty with all this belated effort to repair the curriculum is that it is too often only another spasmodic struggle to inject a new but isolated subject into the school program. I recall the whole-

some doctrine delivered to the Department of Superintendence by the committee which prepared the yearbook dealing with character education. Character cannot be dealt with adequately in a course or in a series of exhortations delivered from time to time during the administration of a curriculum which is not directed in its every line to the training of character. So it is with economics and sociology. It is quite impossible to make children intelligent about society when they have been trained through years by the methods now common in the schools to think of their social inheritance as a series of difficult tasks. The broad science of education which is now in the making will reveal the necessity for social training throughout the whole school life of every child.

The problem before the schools today is the problem of taking out some of the non-socializing materials and making place in every subject for socializing contents. Let me illustrate what is meant by taking out non-socializing materials. We are told—and I like to think it is true—that our Latin grammars, in order to give every possible form to the verbs which are there conjugated, go far beyond actual Roman usage. Even Cicero, with his love for multiplication of words, would not, I am persuaded, have insisted on giving to every one of his verbs all the pluperfect subjunctive forms in all the persons and numbers which misguided pedagogues have long compelled children to learn. In like fashion, there was once a disposition, which is now fortunately outdated, to instil into the minds of all young people the names of the capitals of all the states. Better far that pupils should understand the meaning of co-operation than that the assumption should be stressed that virtue comes from knowledge of the names of the seats of government. The English classics, which have been used in the schools as subjects with which to sharpen the historical and rhetorical insights of young people, have been ruined as examples of literature by the emphasis on irrelevant details which conscientious teachers have felt to be necessary.

One sometimes gets the impression that all this striving for details is due to a dearth of real ideas. The enrichment of the curriculum has too often been a process of adding new facts and new subjects to the already long list of incumbrances included in the curriculum. The contention of this paper is that the time has come to think of

enrichment as a process of revising subjects now in the school program so as to make place for instruction which will stress social values.

Let me repeat a striking illustration which I have used before in the presence of some of you. I once saw a teacher in one of the lower grades interrupt an exercise in penmanship to show the pupils some specimens of the ugly handwriting of contemporaries of Queen Elizabeth. The teacher told the children about the crude writing materials of that day and recounted the fact that there were no schools where common people could learn to write. She did more in the few minutes given to the clumsy writing of the Elizabethan period to inspire those modern children with respect for penmanship and zeal for writing than she could have done in weeks of mere routine. I have often thought that someone ought to collect and reproduce not *only examples of uncouth writing of earlier periods but examples of artistic writing that come down to us from the monasteries of the medieval period.* These specimens should be accompanied by a brief text describing the romantic story of handwriting, telling how the art has developed to the point where the great majority of the people are now masters of a skill which in early times was possessed only by scribes and princes.

I am not arguing, it will be noted, for an abandonment of systematic, intensive training in the arts of civilization. I am arguing for a reimportation into these arts of that social significance which has often been lost because teachers and pupils are microscopic in their vision, looking only at the task itself and failing to see that each subject in the school is merely the mature stage of one of the fundamental trends of civilization.

It is just at this point that I part company with those who advocate socializing the school through elimination of all systematic subject-matter courses. They would socialize the school by stimulating pupils to cultivate their creative impulses. They lay great stress on drawing, music, and dramatization. The formula for which I am arguing is based on a recognition of the fact that the fundamental movements of civilization depend on systematic thinking, on scientific analysis, on the use of the intellectual arts, not on individual impulse. The doctrine which I am advocating holds that the only

way in which an individual can be successful is to acquire and use what earlier generations have discovered. This doctrine does not invite the individual to create a new social order; it invites him to equip himself with the best modes of thinking now available in order that he may, from this point on, refine the processes by which earlier generations have approximated the goal of good living. A new social order can never ignore the past. If a new social order were to arise tomorrow, it would have to issue its edicts in an alphabet laboriously devised somewhere on the Arabian peninsula. It would have to transport its officials from place to place by means of mechanical devices which have been in process of refinement since the days when primitive man first began to use logs as rollers to move heavy objects. It would have to count its population by the use of numbers, and derive its food from the soil by agricultural arts, more ancient than any existing system of law and more fundamental than any system of economics.

The school is a part of the system of civilized life. It must find a way of transmitting civilization in order that civilization may progress and produce new achievements. When new achievements are attained, they will, in turn, call for broader systems of education to train new generations.

Up to this point I have tried to indicate the direction in which the science of education must develop if it is to provide adequate leadership for the schools. I turn now to a brief consideration of some of the practical steps which can be taken and should be taken by school systems in order to accomplish what has been described as desirable. I recommend that every school system in the United States prepare during the next year one or more reading exercises which will show pupils the social value of a section of the curriculum.

It will be fairly easy to adopt this recommendation and prepare such exercises in the field of geography. The geographers have supplied a great many models for significant social lessons. Charles A. McMurry, with his study of the world's great harbors, made clear the importance of these harbors in establishing international relations and in determining the industrial activities of the regions around the harbors. If teachers in every locality will make a study of the reasons why their communities were established and of the

influences within their communities which issue from the presence or the absence of lines of transportation and communication, geography will continue to take on increasingly concreteness and vividness.

It is to be noted that the recommendation was that the facts ascertained be formulated into permanent reading exercises to be used by pupils. Much of the effort which has been bestowed on enrichment of the curriculum in the past has been wasted because the products of such effort have not been put into permanent form. Furthermore, if school systems will begin to formulate materials of the type here under discussion, exchange will be possible, and, through co-operation, a large body of new material will be added to the somewhat antiquated stock of information which has been retailed in conventional textbooks through many years.

In history it will be nearly as easy as in geography to find interesting material with social significance. Here again, local resources are often plentiful. There is also a wealth of unused library material. Teachers and pupils alike will find it possible to add to the accounts of historical happenings if they will avail themselves of biographies and narratives of the movements which have produced modern social institutions. When history is referred to as a source of new material, one should include under the term "history" some of the material which is classified in the libraries as "anthropology." History was in the making long before written records were thought of. Many of the most interesting conquests which the human race has achieved are to be found in the tools which were invented and perfected before writing came into existence.

There is no field in which pupils of the present age could more appropriately be instructed than the field of technology. Our industrial system with its social implications has become so complex that anyone who does not gain some insight into technology is sure to be bewildered by present-day machinery and its overwhelming influence on individual happiness and life. Complex technical contrivances have a fascination for young people which is too often overlooked when teachers are trying to find reading materials which will help to cultivate ability to gain information independently from the printed page.

Teachers of language have unlimited opportunities to teach ex-

plicitly the social importance of communication. It is interesting to note that the Russians, in their effort to establish a new social consciousness among their people, selected the story of writing as the subject of a social reader. The derivation of words is a revelation to anyone who will use words as a means of understanding civilization. Take a single illustration. The word "pen" is derived from the Latin *penna*, which means a "feather." The quill pen of early times has left its mark on modern civilization by giving us a name for a writing instrument which no longer has anything but historical relations to the feather.

Some day our schools will outlive the tradition which has made language study a laborious grind. I have never been able to understand why language teachers have not more generally recognized the possibility of enlivening their subject by reference to the fact that back of every change in language there have been human minds at work striving to express ideas. If you will allow me a personal reference, I can testify that I never conceived of Latin as a medium of human communication until late in my student career when I was introduced to Cicero's personal letters. I have often wondered why those letters have not been substituted by some intelligent teacher for the intricate legal orations which are commonly perpetrated on innocent young people. Better still, according to my way of thinking, would be a course on language which explains what the Romans were doing when they declined nouns. It is certainly confusing to an American child who knows no declension form except in the possessive case to be plunged into a collection of declension endings with no explanation of why the Romans had so elaborate a group of language forms.

My illustrations should not be allowed to distract you from the recommendation which they are intended to reinforce. I recommended that the curriculum be socialized by bringing out the implications of everything which we teach. I am prepared to urge this recommendation even though its adoption necessitates great reductions in the present contents of each subject. I believe we shall be much better off in modern life if pupils know fewer facts and understand more fully the meaning of the facts they know. There is today a breathless haste in most of our schools in "covering ground." We

seem to assume that pupils will never learn anything after they leave us. Unfortunately, our methods of conducting schools are such that the pupils commonly live up to the assumption that intellectual acquisition stops at graduation—or even earlier. Facts are fairly easy to acquire. A point of view which looks for the social implications of every fact is by no means easy to acquire. Let the schools teach such facts as they can, but let no school fail to put each fact in its setting as a phase of civilized experience. If we can graduate from schools pupils who have the social point of view, the future will be much safer than it will be if we merely teach uninterpreted facts.

There are large possibilities of constructive readjustment of teaching in the field of mathematics. I have referred to arithmetic, to Arabic numerals, to weights and measures. I might add that time-telling, with its basal figure twelve instead of ten, is one of the romances of civilization. Algebra and geometry have baffled many generations of high-school pupils. Now and then some teacher of these subjects adds, while rushing through the topics which must be covered in the semester or the year, something that makes these higher branches of mathematics seem interesting to human beings. It would be a proper demand to impose on every teacher of mathematics that he make clear to his pupils, by interesting reading materials supplementary to the barren textbooks by means of which these subjects are now taught, the effects on society of the use of the equation and the nature of a civilization which must measure land because it is one of the most fundamental kinds of property.

Somewhere in the general field of mathematics pupils should be given the opportunity to learn the meaning of money. One of the curious omissions of the modern curriculum is that it offers no enlightenment on the one group of facts to which adult life devotes its major attention. Children read the history of money with great interest when proper materials are supplied for their use. They will be engaged all their lives in the effort not to be mastered by money, that symbol of power, the reward of labor. Perhaps it is too much to ask of the schools that they explain the full social influence of money. It is at least legitimate to ask that money be not disposed of summarily in a table of denominate numbers.

Illustrations of the type which I have been presenting should be

supplemented by some reference to the natural sciences. As these sciences are now taught, they usually consist of facts detached from the human beings who discovered them and from the human beings who will use them. "Science for its own sake" is the slogan adopted by many who teach the natural sciences in the schools. It may be that there is a stage in scientific inquiry where human factors must be minimized, but this stage has certainly not been reached in the elementary school and the high school. The lower schools, at least, may properly think of the natural sciences as man's method of viewing the world in which he lives.

The kind of revision of the curriculum which I have attempted to describe will not be acceptable to the adherents of academic tradition. They will say that this program sacrifices the subjects to a degree which endangers their scholarly qualities. Nor will this kind of revision satisfy the extremists who want to do away with all subjects in favor of a child-centered program. The defense which I offer against both the conservatives and the radicals is that the socializing curriculum is the curriculum which the science of education shows to be valid.

An approach to the kind of revision which I have suggested was made some years ago by the Herbartians. They advocated a new curriculum for schools in which the various subjects of instruction were grouped around a central core subject having large social significance. The core subject was some form of history.

My objection to the Herbartian program is that a core subject is, after all, distinct from the other parts of the curriculum. I have not advocated a separate or separable core. I have advocated a curriculum permeated throughout with the spirit and substance of social teaching. The definition of the school which was presented earlier in this paper as the definition resulting from a scientific analysis of education states that the school is society's agency for socializing individuals. The school is not society's agency for informing individuals about a host of isolated facts. It is not society's agency for giving children a number of skills. It is not society's agency for cultivating children's instincts. It is not society's agency for relieving parents of the care of their children. The school may, indeed, serve society in many collateral ways, but its major function is one which in the

past has been far too largely neglected. The school has become absorbed in tasks which are not of primary importance.

One final comment and I shall bring this paper to a close. A number of very useful examples have of late been published showing what can be done along the lines which have been recommended. In 1930 Purdue University published a booklet of seventy pages devoted to *The Story of Wheat*. This booklet is more extended than the lessons which I have been recommending, but it shows admirably what can be done to provide reading material of large social significance to young people in the schools. Recently the Committee on Materials of Instruction of the American Council on Education published booklets on a number of achievements of civilization—on the alphabet, on the number system, on weights and measures, on the calendar, on time-telling, and on the way in which custom passes into law as shown in the development of rules governing traffic. The American Education Press, Inc., of Columbus, Ohio, has published a series of booklets under the title "Modern Problems Series." These booklets discuss current topics, such as the depression and economic planning.

All these contributions to social thinking are so stimulating that they should be brought to the attention of teachers. If there could be a general movement throughout the educational system of this country in the direction pointed by these recent publications, the resulting new curriculum would be saved from the deficiencies which have been revealed by the foresight of the reformers of the nineties and by tests and measures. The new curriculum would meet the demands which have been imposed upon the schools by the expansion of pupil populations. The new curriculum would meet more adequately the requirements of modern civilization. The new curriculum would exhibit a new type of vitality, resulting from the discovery of a method by which constant additions can be made to the materials of instruction. Through a new curriculum thus constructed, the schools will contribute to the conservation of all that is best in the present social order and to the reconstruction of social practice in the interests of the social order of the future.

HOW STUDENTS REVIEW FOR OBJECTIVE AND ESSAY TESTS

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THE PROBLEM

During the last decade or so many teachers, both in public schools and in higher institutions, have learned to use objective tests. Some, in their enthusiasm for the new techniques, have altogether discarded the traditional essay test. Large numbers of teachers, on the other hand, including some who are familiar with objective tests and many who are but little acquainted with them, still rely exclusively or almost exclusively on essay tests. Other teachers use both types.

The problem with which this report is concerned is as follows: Which of these three courses of action on the part of the teacher is best for his students? One way of attacking the problem, possibly one of the most significant ways, is to observe the methods of study which students employ in reviewing for tests. (1) Are their methods the same for both types of tests, or do they employ one set of methods for essay tests and another set for objective tests? (2) If different methods are employed, then it is pertinent to inquire whether the methods of review employed for either type of test have so little value that teachers can discontinue the use of that type without neglecting the best interests of their students. Throughout this investigation it has been assumed that methods of study constitute one of the most important kinds of learning at any level of instruction.

In an attempt to answer these questions, the following line of attack was devised. The members of two sections in a course in educational psychology at the University of Alabama, Sections 63 A and 63 B, which include Juniors and Seniors, were informed in April, 1932, that an objective test would soon be given and that an essay test would be given the following month. To refresh their minds on

each occasion, the instructor gave them several statements or questions representative of the type of test to be expected and invited them to consider the methods of reviewing which would be most helpful for a test of that type. The instructor then raised the question of the comparative values of the two types of tests and elaborated on the idea that these values depended, in part at least, on the methods of reviewing which students employed. He asked the students to make notes on the methods of study which they employed in their reviewing and to hand in the written notes at the next class meeting after the test.

From these reports the instructor drew up a list of sixty-seven methods of reviewing for tests (Lists A, B, C, and D which follow) classified under the six heads given in List D. These methods were presented to Sections 63 A and 63 B in the form of a check list and later to two sections in a course in tests and measurements, Sections 67 A and 67 B, consisting of Juniors and Seniors, and to two sections in general psychology, Sections 2 D and 1 A, consisting mainly of Freshmen and Sophomores. In the directions that accompanied the check list, the students were asked to be guided by their actual practice in reviewing for a test when they knew in advance the type of test to be given. They were asked to check every method in one, but in only one, of five columns, as follows: in Column I, the methods "you do not use or very seldom use"; in Column II, those "you consider best adapted to the essay test"; in Column III, those "best adapted to the objective test"; in Column IV, those "equally well adapted to both essay and objective tests"; and in Column V, those "poor for both types of tests."

The reliability of the check list was determined in the case of fifty-nine individuals (every fourth paper) by correlating the split halves of the sixty-seven items. The correlation data in each case consisted of the number of checks in each of the split halves placed in Column II and in Column III combined. When the correlation of $+0.833$ obtained by the Pearson product-moment formula was stepped up with the Spearman-Brown "prophecy formula," the coefficient was found to be $+0.924$. In view of this result and of several additional internal evidences, which need not be mentioned here, it seems reasonable to believe that the data are fairly reliable.

DO STUDENTS STUDY DIFFERENTLY FOR ESSAY AND
OBJECTIVE TESTS?

The first aspect of the problem to be attacked lies in the question: Do students employ the same or different methods in reviewing for essay and objective tests? Data on this question are found in Table I. It is seen that the average student considered 9.5 of the 67 meth-

TABLE I
AVERAGE NUMBER AND PERCENTAGE OF CHECKS PER STUDENT
PLACED IN EACH OF THE SEVERAL COLUMNS

SECTIONS	AVERAGE OF CHECKS IN COLUMN											
	I Do Not Use		II Better for Essay Test		III Better for Objective Test		II and III Total for Essay and Objective Tests		IV Equally Good for Both		V Poor for Both	
	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent
63 A and B (78 students) ..	19 6	29.3	11 9	17 7	8 0	11 9	19 9	29 6	24.9	37 2	2.6	3 9
67 A and B (48 students)...	21.1	31.5	8.8	13 1	5 4	8.1	14.2	21.2	29.1	43.4	2 6	3.9
2 D (50 stu- dents).....	25.5	38 1	6.5	9 7	8.1	12.1	14.6	21.8	23 9	35 7	3 0	4 5
1 A (60 stu- dents) . . .	21.5	32.1	9.5	14 2	5 1	7.6	14.6	21 8	28 0	41.8	2 9	4.3
All sections (236 stu- dents)...	21.6	32.2	9.5	14 2	6 7	10.0	16 2	24.2	26 3	39.3	2 8	4.2
Range of num- ber of checks	1-59		0-42		0-28		0-48		0-58		0-14	

ods best adapted to the essay test and 6.7 methods best adapted to the objective test. The sum of these two columns shows that the average student considered 16.2 methods better for one type of test than for the other. Of the total number of checks (15,812) given by the 236 students, 24.2 per cent were placed in Column II or in Column III. The outstanding fact presented in Table I is, then, that approximately one-fourth of the total number of judgments recorded indicate discrimination as to the effectiveness of different methods of study for essay and for objective tests. When consideration is given to the fact that 32.2 per cent of the checks were placed in the

"Do not use" column, the extent of discrimination looms larger; of the 67.8 per cent of the checks placed in the other columns, that is, in those columns indicating use, 36 per cent were located in Column II or in Column III.

Further light on the extent of discrimination is given by the number of individuals who checked few methods in Columns II and III. A tabulation not presented here showed that only 4 per cent of the students failed to check any of the methods in these columns. Such students apparently employ the same methods of study regardless of the type of test for which they are reviewing. Further examination showed that 8 per cent of the students checked two methods or less, that 9 per cent checked from three to five methods, and that only 17 per cent checked less than six methods in these columns. In other words, 83 per cent of the students made six or more discriminating judgments on the 45.4 methods checked as used by the average student. It may be said, therefore, that discrimination between methods of study effective for essay tests and those effective for objective tests is characteristic of a decided majority of these 236 students. Discriminating attitudes of this kind must be taken into account if the instructor is intelligently interested in what his students learn, since the learning must inevitably be affected by the methods which they employ in reviewing for his tests.¹

Table I shows that Sections 63 A and B made a larger percentage (29.6) of discriminating judgments than any of the other sections. It was pointed out in the introductory paragraphs that the problem originated in Sections 63 A and B and that its significance was explained to them more fully than to the other sections. Although the explanation was given without expression of opinion on the part of the instructor as to the value of discriminating attitudes or the effectiveness of any method for either type of test, the issue undoubtedly assumed a greater significance in these sections. This factor alone, as far as the writer knows, distinguishes Sections 63 A and B from the other sections. When the probable error of the difference (8.4) between the mean percentage of checks placed by these sections

¹ The data in this report are not concerned with the methods which students employ in studying new material. It is not unlikely, however, that these methods also are affected by the nature of the tests which the instructor gives.

in Columns II and III combined (29.6) and that of Sections 67 A and B (21.2) was calculated, it was found to be 1.68. In other words, the difference between the means is greater than can be accounted for by errors in sampling. This fact appears to warrant the conclusion that the tendency of students to discriminate as to the effectiveness of different methods of study for the two types of tests is greater when the question has been made an issue of considerable importance with them.

WHICH METHODS ARE BEST ADAPTED TO OBJECTIVE
AND TO ESSAY TESTS?

The fact of discrimination having been established, the following question is next in order: Which methods were considered best adapted to objective tests and which to essay tests? This question can be answered in the case of the objective test, for example, by finding which methods were checked most frequently in Column III. Each method was checked once by each of the 236 subjects. The percentage which the number of checks in each column was of 236 was calculated for each method. The percentages in Column III (favoring the objective test) were then distributed, and the quartiles were calculated. In Column III the upper quartile was 13.1 per cent. The sixteen methods which had higher percentages than 13.1 in Column III are presented in List A; those having higher percentages than 19.2 in Column II are given in List B; and those with percentages above 54.4 in Column IV are incorporated in List C. In order that all the methods in the original check list may be available for examination, the remaining twenty-six methods are given in List D.

LIST A. METHODS OF REVIEW CONSIDERED BEST ADAPTED
TO OBJECTIVE TESTS

1. Look chiefly for details in reviewing a chapter.
2. Underscore striking words or phrases while reviewing.
3. Notice (mentally) words or phrases that appear to be especially significant.
4. Learn the meanings of unfamiliar terms.
5. Write out a list of the authors of experiments described in the textbooks.
6. Associate the name of the experimenter with the subject of his experiment.
7. Try to understand the meaning of each sentence in the textbook.

- 8 Practice recalling the key sentences of paragraphs while reading.
9. Pay special attention to examples or applications in the textbooks of important principles, rules, laws, etc.
10. Read, recall, recite, or memorize series of related items such as lists of principles, rules, laws, steps in a process, etc.
11. Underscore the most important sentences while reviewing.
12. Review the material a second time concentrating on the underscored passages.
13. Review the material a third time concentrating on the underscored passages.
14. Write out and mark a few objective-test statements for practice.
15. Write out and mark a large number of objective-test statements covering comprehensively the material included in the textbook
16. While reading, consciously look for sentences which appear likely to be selected by the instructor as suitable material for objective-test statements.

The nature of the methods of reviewing which students consider most efficient in preparing for objective tests is a matter of considerable importance both to the teachers who use tests of this kind and to technical workers in the field of tests and measurements. The most striking characteristic of such methods of study, as they are described in List A, is their emphasis on details. More than one-half of the methods mentioned, including Methods 1-8, 11, and 16 (if not others, such as Methods 9, 12, 13, and 14), are concerned with small units of subject matter, such as words, phrases, and sentences. If the student uses methods of this kind too consistently, he risks the possibility of acquiring the vice of shallowness or superficiality. Lest this point be too heavily stressed, however, it should be noted that four of the methods in List A (Methods 5, 13, 14, and 15) were frequently checked in Column I ("Do not use"), presumably because these methods require persistent endeavor or laborious writing.

The judgments of the students who participated in this investigation were based necessarily on the kinds of objective tests with which they were familiar. All had had considerable experience with true-false, completion, and simple-recall questions and some experience with matching and multiple-choice questions. Thus, their experience is probably very nearly like that of other students whose instructors employ the common types of objective tests in ordinary practice.

Most teachers, it would seem safe to say, consider it profitable

that the members of their classes work to learn details, or some details at least, during a part of the time they devote to reviews. The objective test is a powerful incentive to do this kind of work. When teachers deem it profitable for their students to search zealously for small units of subject matter, they possess in the objective test an instrument nicely adapted to that end. However, the enthusiast who uses objective tests only should be equally concerned about the methods of reviewing which the objective test does not emphasize. These are found in List B.

LIST B. METHODS OF REVIEW CONSIDERED BEST ADAPTED
TO ESSAY TESTS

17. Look chiefly for the main points in reviewing a chapter.
18. When beginning the review of a chapter, quickly get a preliminary general idea of the topics covered in the chapter.
19. Write out the related ideas or general topics which are discussed in more than one chapter of the textbooks.
20. Organize related chapters into groups (mentally), and think over their relationship.
21. Compare or relate the main ideas of one chapter with those of another.
22. Write an outline of each chapter including main topics and subtopics of one's own selection.
23. Study the written outline of a chapter as an integral unit or whole.
24. Try to recall or recite the subtopics of a chapter in one's own words.
25. Run through a chapter attempting to recall or recite the main points under the center-heads and side-heads.
26. Examine carefully concluding summaries at the ends of chapters.
27. Summarize (mentally) the thought of related paragraphs.
28. Try to apply important principles, rules, etc., to the experiences of everyday life.
29. Write out selected items, such as definitions, conclusions of experiments, outstanding facts, etc.
30. Form an idea of the meaning of each paragraph.
31. Re-read difficult passages.
32. Write out a number of plausible essay questions, and answer them.

The outstanding characteristic of the methods in List B is their emphasis on the study of large units of subject matter.¹ Methods

¹ The reader may be interested in the fact that, in a similarly conducted investigation, report of which will appear in an early issue of the *Journal of Educational Research* under the title "How Students Study for Different Types of Objective Tests," students considered several of the methods in List B, such as Methods 17, 18, 22, and 23, well adapted to review for the listing-recall type of objective test.

17, 18, 19, 20, 21, 22, 24, 25, and 26, for example, mention such items as "main points," "main ideas," "general ideas," "related ideas," "main topics," "side-heads," and "summaries." The methods describe the treatment of entire chapters or groups of chapters as wholes (Methods, 18, 19, 20, 21, 22, 23, 25, 26). They call for writing, outlining, summarizing, and the application of principles to experience—all of which are difficult, penetrating, and time-consuming but valuable methods of intellectual work. However, four of these methods (Methods 21, 22, 24, and 32) were checked by many students in Column I ("Do not use").

All conscientious, trained teachers probably consider it profitable for the members of their classes to use several, if not all, of the sixteen methods of reviewing described in List B. The use of carefully prepared essay tests tends to accomplish this purpose. Recognition of facts such as these and of those brought out in connection with List A (vague or "intuitive" information as in many cases it may be) very likely accounts, in part at least, for the exclusive devotion of numerous conservative teachers to essay tests. To the enthusiastic user of objective tests who has altogether abandoned essay tests, these facts provide food for much thought. The only course of action that will commend itself to the teacher who values the methods of study described in both Lists A and B, if the interpretations made are accepted, is to include both essay and objective tests in his instructional plans. The same conclusion has been reached by Sims¹ through an analysis of the influence of the teaching-testing situation on the validity of the extensive sampling theory, which has been advanced in justification of the exclusive use of the objective test.

List C includes the nine methods which were considered equally well adapted to both essay and objective tests. Most of these methods seem to be more concerned with the selection of material (Methods 33, 34, 35, and 36, for example) or with the proper time to review (Methods 39, 40, and 41) than with methods of attacking material. Many students, one may infer, would use the methods in List C combined with those of either List A or List B, depending on whether the test announced was to be of the objective type or the essay type.

¹ Verner Martin Sims, "Objective Tests and Teachers' Measurements," *School and Society*, XXXVI (September 3, 1932), 300-302.

LIST C. METHODS OF REVIEW CONSIDERED EQUALLY WELL
ADAPTED TO OBJECTIVE AND ESSAY TESTS¹

33. Pay special attention to points recognized as having been discussed in the classroom.
34. Spend most of the time studying things with which one is not familiar.
35. Review mimeographed sheets of problems, exercises, or directions for study distributed when chapters were first assigned.
36. Review notes taken in the classroom.
37. Look up in the textbooks points in one's outlines which cannot be recalled readily.
38. Conclude preparation for the test with a final review of one's outlines.
39. Read over underscored passages in the textbooks—not long before going to the test.
40. Re-read notes taken in the classroom—not long before going to the test.
41. Review parts in the textbooks which cannot be recalled—not long before going to the test.

It may be mentioned in passing that some students reported that they study in the same way regardless of the nature of the test for which they are preparing. Indeed, nine of the students (4 per cent) who participated in this investigation checked none of the methods in either Column II or III. Mastery of the subject matter, some of these asserted, is their chief aim in taking a course, and they pay little attention to the kinds of examinations which are given. Although this report shows that few students actually carry it out, the merits of this plan of study appear to deserve further investigation.

The remaining twenty-six methods are presented in List D.

LIST D. METHODS ON THE ORIGINAL CHECK LIST
NOT INCLUDED IN LISTS A, B, AND C²

UNDERSCORING

42. Concentrate in reviewing on passages in the textbooks underscored previously, that is, when the material was first assigned.

WRITING—APART FROM OUTLINING

43. Write down underscored passages that are difficult to recall
44. Make marginal notes on the pages of the textbook.

¹ On the basis of the percentages of pupils who considered these methods equally well adapted to objective and essay tests, Methods 4, 6, 9, 10, and 12 in List A and Methods 17 and 31 in List B should also be included in List C.

² The headings in List D are those under which the sixty-seven methods were classified in the original check list to aid the student in checking

45. Fill out or rewrite important notes taken in the classroom.
46. Write out selected series of related items such as lists of principles, rules, laws, steps in a process, etc.
47. Draw diagrams or charts of facts or ideas which can be organized in this way.

OUTLINES

48. Write a skeleton outline of each chapter, including only the center-heads and the side-heads found in the textbook.
49. Write a full outline of each chapter, including the center-heads and side-heads in the textbooks and the main points under each head.
50. Recall or recite the main points under the subtopics of one's outlines.
51. Study chapter outlines written before beginning the review for the test.
52. Memorize one's outlines

MENTAL TREATMENT—WITHOUT UNDERSCORING OR WRITING

53. Recall or recite various unrelated or isolated facts, rules, definitions, etc., after reading a chapter.
54. Digest the findings of experiments.
55. Review the tables or the charts in the textbooks to get the main ideas of each.
56. Memorize important selected passages
57. Try to recall or recite the center-heads and side-heads of each chapter.
58. Read the table of contents, attempting to recall or recite the main points under each subtopic.

VARIOUS SPECIAL METHODS

59. Carefully read the entire text of a chapter through from beginning to end.
60. Study with one or more members of the class.
61. Consult other members of the class as to what questions are likely to appear on the test.
62. Start at the end of each chapter and study backwards
63. Try to evaluate the chief ideas or principles as regards their usefulness to one's self
64. Try to "spot" questions which the instructor is likely to ask.

FINAL REVIEW—NOT LONG BEFORE GOING TO THE TEST

65. Skim over the text of each chapter.
66. Read over the center-heads and side-heads of each chapter.
67. Review one's chapter outlines.

Eight of these (Methods 45, 47, 48, 49, 52, 57, 58, and 62) were among the sixteen most frequently checked in Column I ("Do not use"). Most of these methods demand hard work. Six others (Meth-

ods 56, 59, 60, 61, 64, and 65) were among the sixteen most frequently checked in Column V ("Poor for both types of tests"), and most of these would appear to have been advisedly checked there. The twelve remaining were not given exceptional attention in any of the five columns.

INDIVIDUAL DIFFERENCES IN DISCRIMINATION

It will be illuminating to examine more closely a few individual cases. The variation of individual students with respect to the ex-

TABLE II
INDIVIDUAL DIFFERENCES DISPLAYED BY SIX STUDENTS IN DISCRIMINATION OF METHODS BEST ADAPTED TO OBJECTIVE AND TO ESSAY TESTS

STUDENT	PERCENTAGE OF THE SIXTY-SEVEN CHECKS PLACED IN COLUMN					
	I Do Not Use	II Better for Essay Test	III Better for Objective Test	II and III Total for Essay and Objective Tests	IV Equally Good for Both	V Poor for Both
G.....	45	0	0	0	46	9
H.....	6	5	3	8	86	0
I.....	24	14	10	24	36	16
J.....	28	63	9	72	0	0
K.....	15	46	21	67	13	5
L.....	42	3	42	45	12	2
Lower quartile*	21.1	6.1	5.8	15.0	30.1	2.2
Median*	31.1	13.3	9.1	24.0	38.3	4.3
Upper quartile*	43.4	22.2	15.3	34.5	48.8	7.8
Range*	2-87	0-63	0-42	0-72	0-86	0-21

* Based on distributions for all 236 students.

tent of their discrimination of methods of reviewing may be observed in Table II. In this trait, as in all others, the range of differences is very wide (from 0 to 72 per cent). The first two students, G and H, make little or no discrimination (0 and 8 per cent). These represent the comparatively small number of students who study in the same manner regardless of the nature of the test. Student I stands near to the median practice (in Columns II, III, II and III, and IV). The last three students exhibit (in Columns II and III combined) an extent of discrimination much above the upper quartile. Student J emphasized the essay test (63 per cent) in his checking; student L,

the objective test (42 per cent); and Student K, both tests (46 and 21 per cent).

As a part of the question of individual differences, the relation of intelligence and of scholarship to discrimination arises. Seventy-five members of Sections 63 A and 63 B, in which the amount of discrimination was greatest, were given the Otis Group Intelligence Scale, Advanced Examination, Form A. The correlation by Pearson's product-moment formula of these raw scores with the corresponding percentages in Columns II and III combined (the measure of discrimination) was found to be $-.04$. Similarly, the correlation of the extent of discrimination with the final grades in psychology was found to be $-.07$. That is to say, bright students and superior scholars discriminated little in some cases and in others, much. Dull students and poor scholars likewise discriminated both much and little. Those students who vary their selections of methods according to the type of test they expect are as intelligent and they achieve as much in scholarship as those who study in the same way regardless of the type of test they expect. The wide ranges in brightness (83-205) and in achievement (F to A) must be accounted for by other factors, such as the zeal, the persistence, and the skill with which the student uses whatever methods he employs.

Although the subjects of this investigation included only college students in psychology classes, the conclusions which have been derived from it, as far as the writer can see, are not without implication for lower levels of instruction and other subjects of study in which both essay and objective tests are practicable. Until the contrary has been shown, it seems reasonable to believe that the study behavior of pupils in junior and senior high schools, especially in the so-called "content subjects," is influenced to a significant extent by the teachers' selections of tests.

THE TEACHING QUOTIENT

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A long search for an objective measure of teaching merit, acceptable alike to teacher and supervisor, has led the writer to the teaching quotient, or "T.Q." This measure is based on the results of annual group achievement tests administered late in the school year, due allowance being made for the ability of each group tested. The purpose of this article is to describe this measure of teaching success and to indicate how it has been employed in two school systems.

First, a grade quotient, "G.Q.," is obtained for each class in the usual manner—by dividing the median or the mean class score by the standard score for the grade. Thus, one sixth-grade group may secure a G.Q. of 103 in paragraph meaning, 108 in word meaning, 96 in dictation, and so on. As a median intelligence quotient has been prepared for each group, the next step is to find the difference between the median I.Q. and 100 by subtracting the smaller from the larger. The remainder thus obtained is then *added* to the G.Q. if the I.Q. is *less* than 100; it is *subtracted* if the I.Q. is *more* than 100. The final result is the T.Q. For example, if a class has a median G.Q. of 98 and a median I.Q. of 94, the difference between 94 and 100 (6) is added to 98, a T.Q. of 104 being thus obtained. On the other hand, if the median G.Q. of a class is 105 and its median I.Q. is 108, the difference between 108 and 100 (8) is subtracted from 105, a T.Q. of 97 being thus obtained. The first teacher is shown to be the more efficient of the two, her T.Q. being 104 compared with the other teacher's T.Q. of 97, even though the achievement of her class in terms of G.Q. is only 98 compared with the second teacher's 105. The slower group has been led to accomplish better work than one would normally expect, while the brighter group, though doing well, has not been led to do as good work as it should have done. The T.Q. formula aims, on the one hand, to offset through credits the handicap un-

der which the teacher of a slow group is working and, on the other, to offset through debits the advantage enjoyed by the teacher of a bright group.

Strictly speaking, the teaching quotient is not a quotient. It is more accurately described, perhaps, as a "teaching index." However, as *Q* is a convenient and popular letter in testing parlance and as "T.I." is relatively awkward, "T.Q." has in practice proved to be the most effective label for this measure.

A T.Q. of 100 is considered to represent average or "good" teaching, while 110 has been tentatively set as the mark of superior accomplishment. This quotient should be the goal of every teacher priding herself on the quality of her work. A T.Q. of 90 has been chosen tentatively as the lower limit of "acceptable" teaching. A rating of less than 90 indicates poor work, and a careful analysis of the teaching situation is in order to determine where the weakness lies—whether in methods, materials, or in the teacher herself. If, for example, a teacher secures a particularly low rating in some subject in which most of the other teachers of a school system excel, the weakness is presumably her own. On the other hand, if every teacher in a system secures a low T.Q. in a single subject, it is probable that the difficulty rests in the method or the materials. Sometimes, however, even when a system lacks certain vital materials, the T.Q. will show that the more resourceful teachers still do superior work. A case in point is that of a group of twelve fourth-grade teachers, all equally handicapped by inadequate materials for the teaching of history and civics. The most resourceful member of the group obtained a T.Q. of 121, another teacher, decidedly less resourceful, registered a T.Q. of 34.

The T.Q. "yardstick" has been successfully applied for three years in two school systems with which the writer is familiar. Subject T.Q.'s have ranged from 34 to 136, while the mean T.Q.'s of individual teachers have ranged from 87 to 117. The mean T.Q. of the teachers in one of the two systems was 106; in the other, 99. It is possibly significant that the teachers of the first system had had the benefit of a systematic testing program for three years, while in the second system the testing program had only just been initiated.

The T.Q.'s of teachers of classes from the third to the eighth

grade, inclusive, have indicated with a high degree of accuracy how well the teachers are "putting across" their subjects. The T.Q.'s of second-grade teachers have so far proved somewhat unsatisfactory because the measures have tended to be erratic. When the children are very young, every bit of instruction which a teacher succeeds in making effective is relatively such a large addition to the pupil's stock of knowledge that it causes the T.Q. to jump upward amazingly. On the other hand, if the teacher fails in her message, the T.Q. falls at a correspondingly rapid rate. This behavior of the T.Q. in

TABLE I
T.Q. SUBJECT RATINGS OF FOUR TEACHERS OF VARYING
DEGREES OF TEACHING ABILITY

Subject	Superior Ability	Mediocre Ability	Consistent Ability	Erratic Ability
Paragraph meaning	114	101	104	104
Word meaning	120	101	111	101
Diction	108	88	102	91
Language usage	120	86	99	83
Literature	112	86	111	99
History and civics	112	91	106	34
Geography	117	90	99	97
Hygiene	111	98	99	75
Arithmetic reasoning	113	94	100	102
Arithmetic computation	136	90	101	90
Mean	116.3	92.5	103.2	87.6

the lower grades gives new emphasis to the importance of having especially well-qualified teachers during the pupils' first years of school life.

The policy has been to furnish each teacher with her own subject T.Q. ratings after the spring tests have been given and scored. Knowing the three important milestones on the T.Q. scale (90, 100, and 110), she can quickly see where her own strong and weak points lie. The T.Q. ratings are thus made the starting point for the next year's improvement. A few typical ratings are given in Table I.

The T.Q. has been used in the two school systems concerned as one of several elements entering into the judgment of a teacher's merit, and its objective nature makes it important. The teachers who have been rated on a T.Q. scale have generally been impressed

by the fact that the procedure is impartial and unprejudiced, unlike the purely personal methods of determining a teacher's worth. Certainly, the ratings have proved most valuable incentives to teachers to strive vigorously to better their records the following year. For example, one group of teachers improved their mean ratings in dictation (spelling) 6 points (from 95 to 101) and in language usage 9 points (from 100 to 109). Some individual teachers who were doing only fair work the first year made marked improvements. One T.Q. in arithmetic computation rose from 89 to 99; one in word meaning, from 91 to 101; one in dictation, from 75 to 98; while one teacher, who had had considerable difficulty at first in teaching silent reading, increased her T.Q. in paragraph meaning from 79 to 108. This teacher took her unacceptable rating seriously, and the following year she saw to it that she surpassed the acceptable and the standard ratings, raising her T.Q. to practically the superior level.

Ordinarily the T.Q. is used to measure a teacher's accomplishment with a class or a grade, and thus it concerns group results. It may also be applied, however, to individual cases, as when one wishes to measure a teacher's instructional success with a certain problem pupil, with a particular bright or dull pupil, and in other special cases. Some interesting data on the T.Q. are being accumulated which show the relative success of different teachers with bright and dull pupils. The T.Q. may be used as a measure in any course or at any level above the second grade. It can be applied wherever a standardized test with definite grade norms is available.

GEOGRAPHICAL MATERIALS CONTAINED IN READERS FOR THE FIRST THREE GRADES

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A study of school curriculums reveals the fact that geography is not listed as a separate subject in the first, second, and third grades. In these grades geographical information or knowledge is gained only incidentally. Stories containing geographical ideas are a part of the reading materials for the several grades. This study is an attempt to show the relative importance of geographical materials in readers for the primary grades. It is of interest to the teacher of geography to know the amount and the kind of geographical information which the child has acquired in his reading and the geographical terms and concepts with which he has come in contact when he begins the formal study of geography. If certain topics, such as the home and the clothing of the Eskimo, have been adequately covered in the reading materials in the second or the third grade, the teacher of geography would probably need to give only a summary or a review of such topics.

In order to ascertain these geographical facts and concepts the writer analyzed the following ten series of readers used in the first three grades in the elementary school.

Marjorie Hardy, *The Child's Own Way Series*. Chicago: Wheeler Publishing Co., 1926.

Mary E. Pennell and Alice M. Cusack, *The Children's Own Readers*. Boston: Ginn & Co., 1929.

Frank N. Freeman, Grace E. Storm, Eleanor M. Johnson, and W. C. French, *Child-Story Readers*. Chicago: Lyons & Carnahan, 1927.

Margaret L. White and Alice Hanthorn, *Do and Learn Readers*. Chicago: American Book Co., 1930.

William H. Elson and William S. Gray, *The Elson Basic Readers*. Chicago: Scott, Foresman & Co., 1930 and 1931.

Henry Suzzallo, George E. Freeland, Katherine L. McLaughlin, and Ada M. Skinner, *Fact and Story Readers*. Chicago: American Book Co., 1930 and 1931.

Albert C. Lisson and Evelyn V. Thonet, in collaboration with Emma Grant Meader, *The Happy Childhood Readers*. Dansville, New York: F. A. Owen Publishing Co., 1930.

Anna Dorothea Cordts, *The New Path to Reading*. Boston: Ginn & Co., 1929.

Mathilde C. Gecks, Charles E. Skinner, and John W. Withers, *Story and Study Readers*. Richmond, Virginia: Johnson Publishing Co., 1928.

Arthur I. Gates and Miriam Blanton Huber, *The Work-Play Books*. New York: Macmillan Co., 1930.

These series are comparatively recent, all having been published in 1926 or later. The primer, the first reader, the second reader, and the third reader in each set were used in the investigation. Every selection in each reader was read carefully, and the nature of the content was determined by deciding what the story meant to tell or emphasize. In doubtful cases a specialist in geography was consulted. In the identification of terms, concepts, and materials with geographical value, the paragraph was taken as the unit or basis. Concepts, words, and terms were included or excluded on the basis of their geographical nature.

In this study "geography" is defined as man's way of living as shown by his adjustment to his environment in the primitive and undeveloped regions and in the developed regions. In the primitive regions man's adjustment is shown by the type of food he eats, in the material of his clothing and the amount of clothing he wears, in the shape and the material of his home, in his occupation, and in his means of transportation and communication. In the developed regions man's adjustment to his environment is shown, not by his food, clothing, and home, but by his way of making a living and his use of the natural resources.

The extent of treatment was considered in the tabulation. Four types of treatment were considered: (1) bare mention, (2) brief minor mention, (3) extensive minor mention, and (4) major mention. A bare mention is a reference to a geographical place or an event without any explanatory statement, such as "Kit lived in Holland." A brief minor mention of a geographical item is a reference of one to ten lines in length. An extensive minor mention is a continuous account of ten lines or more but not a whole story. A

major mention of a geographical item is an entire selection in which the geographical item is the central topic.

All geographical items were tabulated on cards, one word or term on a card. Each mention, the type of mention, the name of the book, and the page or pages on which the item appeared were recorded. Parts of pages were expressed in percentages of an entire page. The number of lines on the portion of the page was divided by the number of lines on a full page in that particular book. The number of pages of illustrations was determined in the same way. The number of inches of illustrations on the portion of the page was divided by the number of inches in a full-page illustration. Test questions and seat-work material given at the ends of stories were disregarded.

The percentages of geographical materials in these readers, which are shown in Table I, range from 0.0 in fourteen books to 48.9 in the second reader of the *Child's Own Way Series*. Only sixteen books of the forty analyzed give as much as 10 per cent of the space to geographical materials. Only three books devote as much as one-fourth of their space to geographical materials. Five of the ten series of readers studied contain no geographical selections in readers for the first grade. Opinion as to whether geographical materials should be given for the first grade seems to be divided. Every series includes geographical materials for the second grade, the number of selections varying from one to sixteen. All third readers in this study contain geographical selections, the number ranging from four to twenty-four.

Table II shows the distribution of geographical materials in the first three grades. There is an increase from grade to grade in the amount of geographical material included in readers. The amount of geographical material in the forty books examined is 677 pages. More than half the geographical materials for the first three grades is found in the readers for the third grade.

Attention was given to the types of materials and the topics covered in the geographical selections. Table III shows that the prose selections make up 72.4 per cent of all the geographical materials in the forty books examined. Pictures or illustrations are next with a percentage of 26.2. These two types of material constitute 98.6 per cent, or practically the entire amount, of the geographical

TABLE I
GEOGRAPHICAL MATERIALS APPEARING IN TEN SERIES OF READERS

Name of Series	Total Number of Pages in Book*	Number of Pages of Geographical Materials	Percentage of Geographical Materials
Child's Own Way:			
Primer	111 6	12 8	11 5
First Reader	117 0	1 8	1 5
Second Reader	200 8	98 1	48 9
Third Reader	248 5	95 7	38 5
Children's Own Readers:			
Primer	99 5	0 0	0 0
First Reader	153 5	0 0	0 0
Second Reader	206 6	22 4	10 8
Third Reader	257 9	64 8	25 1
Child-Story Readers:			
Primer	94 8	0 0	0 0
First Reader	101 4	12 3	12 1
Second Reader	204 4	36 7	18 0
Third Reader	291 3	37 2	12 8
Do and Learn Readers:			
Primer	81 6	0 0	0 0
First Reader	133 1	12 5	9 4
Second Reader	208 8	31 3	15 0
Third Reader	227 1	19 8	8 7
Elson Basic Readers:			
Primer	117 0	0 0	0 0
First Reader	148 4	0 0	0 0
Second Reader	200 7	1 0	0 5
Third Reader	251 9	17 1	6 8
Fact and Story Readers:			
Primer	103 0	0 0	0 0
First Reader	123 2	2 2	1 8
Second Reader	171 8	15 8	9 2
Third Reader	187 0	19 5	10 4
Happy Childhood Readers:			
Primer	109 0	0 0	0 0
First Reader	146 5	0 0	0 0
Second Reader	201 8	6 3	3 1
Third Reader	224 6	27 3	12 2
New Path to Reading:			
Primer	134 0	0 0	0 0
First Reader	152 5	0 0	0 0
Second Reader	197 6	2 1	1 1
Third Reader	220 1	23 3	10 6
Story and Study Readers:			
Primer	89 0	0 0	0 0
First Reader	94 5	0 0	0 0
Second Reader	141 6	26 6	18 8
Third Reader	177 4	34 2	19 3
Work-Play Books:			
Primer	85 8	18 3	21 3
First Reader	121 7	0 0	0 0
Second Reader	167 4	9 9	5 9
Third Reader	242 2	28 0	11 6

* The figures in this column represent the number of full pages of subject matter (content and illustrations) exclusive of test questions, seat-work material, and parts of pages left blank.

material offered. Maps, which constitute an important part of the materials in the formal study of geography, are not usually included in readers for the first three grades. In the forty books examined

TABLE II
GEOGRAPHICAL MATERIALS APPEARING IN ALL THE
READERS FOR EACH GRADE

Grade	Number of Pages of Geographical Material in Readers for the Grade	Percentage of Geographical Materials in Readers for the Grade
I.	59.9	8.8
II	250.2	37.0
III	366.9	54.2
Total	677.0	100.0

only one map is found. This map is given in connection with a story of rubber, "Where the Raincoat Grows"; the map shows the route from New York to Para, Brazil.

TABLE III
DISTRIBUTION OF GEOGRAPHICAL SELECTIONS APPEARING
IN TEN SERIES OF READERS ACCORDING TO
TYPE OF MATERIAL

Type of Material	Number	Number of Pages	Percentage of Geographical Material
Prose	138	490.0	72.4
Poems	14	9.1	1.3
Pictures	379	177.4	26.2
Maps	1	0.5	0.1
Total	532	677.0	100.0

The topics chosen to indicate the content were grouped into ten topic headings. The following list indicates the materials included under each heading: (1) geographical terms, such as "sea," "desert," "ocean," "map"; (2) place geography: Holland, United States, London, and Far North; (3) persons, such as Lindbergh and Morse; (4) peoples, such as Indians, Eskimos, Japanese, (5) industries, such as farming, lumbering, cotton-raising; (6) transportation, such as

automobile, train, jinrickshaw, ship; (7) communication, such as telephone, telegraph, radio, mail; (8) food, such as milk, meats, fruits; (9) clothing, such as cotton, silk, wool; (10) shelter, such as wigwam, igloo, log cabin.

Table IV shows that nearly one-third of all the geographical materials found are stories about peoples. Second place is taken by industries, to which are given 29.1 per cent of the geographical materials. Transportation is third, with a percentage of 15.0. These

TABLE IV
AMOUNT OF MATERIAL DEVOTED TO EACH TOPIC IN GEOGRAPHICAL
READING SELECTIONS IN TEN SERIES OF READERS

TOPIC	NUMBER OF SELECTIONS FOR GRADE			NUMBER OF PAGES DEVOTED TO TOPIC	PERCENTAGE OF GEO- GRAPHICAL MATERIAL DEVOTED TO TOPIC
	I	II	III		
1. Geographical terms..	0	5	1	30 7	6 2
2. Place geography	0	0	3	10 7	2.1
3. Persons..	0	0	2	6 8	1.4
4. Peoples	0	20	15	158 6	31.8
5. Industries	13	8	35	145.3	29.1
6. Transportation..	0	8	18	74 8	15.0
7. Communication	2	4	5	30 9	6.2
8. Food.....	0	3	3	22 7	4.5
9. Clothing.....	3	1	4	18 6	3.7
10. Shelter	0	0	0	0.0	0.0
Total.. . . .	18	49	86	499.1	100.0

three topics comprise 75.9 per cent, or three-fourths, of the entire geographical content. Only 1.4 per cent of the geographical content is devoted to persons. Only two selections of this type are included in the books examined—both about Charles Lindbergh. Little space is given to place geography; only three selections, all about Holland, were found in this study. If the proportion of geographical materials devoted to each topic is any indication of its value, the most important geographical materials for the first three grades apparently are (1) peoples, (2) what they do, and (3) how they travel.

Major mention is made of nine peoples, Eskimos and Indians having the highest frequency; twenty-seven industries, farming ranking highest in frequency; fourteen modes of transportation, of

which train and aeroplane have the highest frequency. The space given Indians amounts to 40.7 pages—the largest amount of space given to any one item. To the farm are given 34.6 pages and to the Eskimo 33.7 pages. These three items receive treatment of the greatest extent. Only three items—"wool," "farm," and "postman"—are given major mention in each of the three grades. No one item is found in every reader. The item "farm" is found in the greatest number, twenty-three books. Indians are mentioned the greatest number of times, 362 in all. Items are given bare mention much more frequently than minor and major mention.

Few of the geographical selections are reprinted or derived from other sources. All but 31 of the 153 geographical selections are written by the authors of the various readers. The duplication of selections is almost negligible; two selections only, "Taxis" (a poem by Rachel Field) and "The Airplane" (a poem by Annette Wynne), are included in more than one book.

In eight of the ten series enrichment is named as the primary reason for including these geographical materials in readers.

SUMMARY

1. An analysis of forty readers for the first three grades indicates that the geographical materials given form a minor proportion of the total amount of material. However, the percentage of geographical material increases from grade to grade.

2. Only 8.8 per cent of all the geographical material is found in the readers for the first grade; second readers contain more than four times as much geographical material as primers and first readers; and third readers contain more than half of all the geographical materials found in readers for the first three grades.

3. The following types of geographical materials are found in the readers examined in this study: prose selections, poems, pictures or illustrations, and maps. Prose predominates with a percentage of 72.4. Pictures or illustrations, which rank second, are given 26.2 per cent of the space. These two types comprise 98.6 per cent of the entire amount of geographical materials.

4. The central themes given the largest proportion of the geographical material are peoples, industries, and transportation.

5. Practically no duplication of geographical materials is found in the readers studied. Only two selections are included more than once.

6. Geographical materials are included in readers for the first three grades primarily for the purposes of enriching and widening the child's experience.

7. During the progress of this study other related questions or problems were brought up, such as the following: (a) Should *any* geographical material be included in readers for the first grade? (b) Should an organized body of geographical subject matter be included in readers for the primary grades? (c) Should certain topics be treated in every grade, or should definite topics be designated for a particular grade? (d) Do certain topics, such as peoples, industries, and transportation, which are emphasized in readers for the first three grades, receive similar emphasis in the study of geography in the fourth grade?

THE TRANSITION FROM MANUSCRIPT TO CURSIVE WRITING

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There are a variety of opinions concerning the proper time to make the transition from manuscript to cursive writing. Many experiments have been carried on, and conflicting results have been secured. This article tells how and when the transition is made in the Germantown Friends School.

In 1926 it was decided to begin the use of manuscript writing in the first grade. The other grades continued the cursive writing. The pupils in the first-grade group entering in 1926 and those following were taught nothing but manuscript writing until the autumn of 1930. By that time sufficient opportunity had been given to consider the value of manuscript writing. The teachers of the first and the second grades felt and still feel strongly that the simplified letters of the manuscript form and the apparent ease with which it is written have a marked effect in speeding up the learning of reading and spelling. The third-grade teachers felt that pupils in that grade should begin to use cursive writing. Therefore, the interesting experiment which will be described was initiated in the school year 1930-31.

This school has two sections to a grade. One third-grade section continued the use of manuscript writing until the middle of the year and then changed to cursive writing. The other third-grade section changed to cursive writing at the beginning of the year. At the beginning of the year the two fourth-grade and the two fifth-grade sections also changed to cursive writing. This procedure gave four distinct times of change. By the end of the school year the third-grade section which had been using simplified manuscript writing and some broad-pen manuscript writing during the first term and cursive writing during the second term had not gained normal expectancy. The procedure was unfair to them—entirely too much experimenting.

The third-grade section and the two fourth-grade sections changing to cursive writing at the beginning of the school year made the change with apparent ease.

Though the third-grade pupils made the change without difficulty, the teacher of penmanship felt that there was an element of unfairness in the experiment. These pupils had been perfecting the manuscript tool; then, as soon as this tool was acquired, they were asked to swing into cursive writing. The procedure had the effect of keeping these pupils in the position of plodders. The fourth-grade pupils swung over as easily as the third-grade pupils. Why not let the third-grade pupils continue the manuscript writing, enjoy their perfected automatic tool for writing unencumbered by the change? Consequently during the school year 1931-32 the two third-grade sections were allowed to continue with the simplified manuscript writing throughout the year, and they were happy in its use. Their stories were better composed and were more numerous. They improved the appearance of their pages. Their writing improved in quality, and time devoted to the proper holding of the writing tool made writing more automatic. Beginning the use of ink in this grade furnishes enough newness to hold the pupils' interest.

Again in 1931-32 the fourth-grade sections changed to cursive writing, and again we felt that this was the proper grade for the transition. During the first year of the experiment, 1930-31, there were but two outstandingly poor writers in the fourth grade as a result of the transition. In 1931-32 one child in the fourth grade was confused for a time, but he became a good writer.

Several of the fifth-grade children, who had used cursive writing for two years, have acquired a beautiful handwriting. Fifty per cent of these children have a rating of 75 per cent or higher on the standard scales of measurement, the Zaner Handwriting Scales and Standards for Grades Three and Four and Freeman's Handwriting Measuring Scale for Grade Four.

Samples of the writing of children making the change in the fourth grade are shown in Figure 1.

The leading steps in the transition from manuscript to cursive writing were as follows: Manuscript writing was used as a tool for the first three months. A review of manuscript writing was given in

the first few lessons. In the first transition lesson the simple under-curve joinings were used with such words as "cut," in which the letters are merely closed together in cursive writing. Then similar letters and words of like simplicity were practiced. Practice was next given in writing the pupil's name, the name of the school, and the name

Blow, breeze, blow!
And lift my kite along.

It matters
nothing if

Blow, breeze, blow!
And lift my kite along.

It matters nothing if one
be born in a duck-

FIG. 1—Samples of writing (reduced one-third) of two pupils who made the change from manuscript to cursive style at the beginning of the fourth grade in the autumn of 1930. The samples of manuscript writing were made in May, 1930, and the samples of cursive writing in June, 1931.

of the month. Letters which in cursive writing are vastly different from the manuscript forms, such as *r* and *s*, were next taken up. These were used in words. A slight forward slant was used without comment. Joinings of all types were stressed.

In December the pupils were encouraged to use what cursive writing they could command in the written spelling lessons. Manuscript forms were slipped in if the pupils could not recall the cursive forms promptly. The pupils were also encouraged to write stories and poems in cursive style. After the first of the year cursive writing was in-

sisted on in written spelling, the manuscript form still being used if the cursive forms seemed hard to recall or joining seemed difficult. It was required that a portion of every story be written in cursive writing. Classmates' names were written in cursive style. By March all the pupils were using cursive writing with keen delight and were obtaining a pretty page. Their eagerness for the cursive writing was the keynote to the great ease with which they attained ability in this form.

The teaching of manuscript writing in the primary grades is still further advantageous. The forms used closely resemble the basic

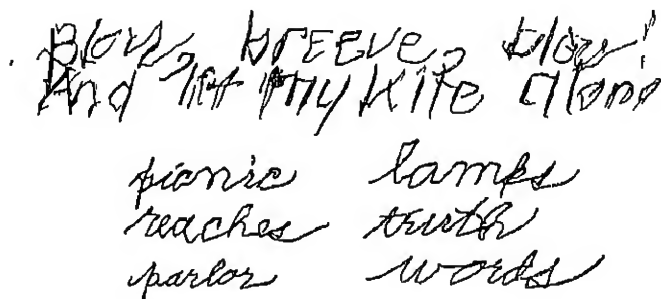


FIG. 2.—Samples of manuscript and of cursive writing (reduced one-half) written by boy with poor muscular control who was able to produce relatively good cursive writing although unable to write legibly in manuscript style. The manuscript writing was produced in May, 1930, and the cursive sample in March, 1931.

forms of the cursive writing. By continued use of these forms in the primary grades, unencumbered by joinings, the children gain clear pictures of forms. Thus, when the pupils swing into cursive writing, they retain clear-cut forms that develop into an accurate and a legible hand. The cursive writing used is a plain flowing style with slight forward slant.

Another finding should be given. One boy now finishing fifth grade greatly lacks muscular co-ordination. His writing in the manuscript style was not at all legible, and he was largely required to use the typewriter. The child has an exceptionally good mind, has dogged persistence, and allows himself no excuse for being different from his classmates. He persisted in taking all writing lessons as they were given. To the teacher's amazement his work in the cursive

writing began to take form and become legible. The teachers can now see the advantage of cursive writing for those afflicted with poor muscular control. In the manuscript writing the continual lift of the pen hindered the boy's development of the writing ability. In cursive writing, when he once had the unruly writing tool on the paper, he could guide it. The pencil was found to be a better tool than the pen for this boy. He feels happy in this accomplishment and less unlike his classmates. Samples of this boy's writing in the two forms are shown in Figure 2.

The chief drawbacks encountered in the manuscript style of writing are poor alignment and the tendency for the writing to become illegible when speed is desired. The tendency to poor alignment is caused by the continual lift and the lack of development of the "muscular feel," which comes early in the cursive writing. Through strenuous effort this tendency has been largely eliminated, the rhythmic work in the cursive writing overcoming the poor alignment found in the manuscript form. A few children wished to continue the use of manuscript writing and were allowed to do so. These few, now in sixth grade, are fighting for legibility, since the continual lift in manuscript writing retards speed and makes it slow for the adult hand.

In conclusion, then, because handwriting is necessary in school and in the social life of the average citizen, penmanship is taught throughout the primary and intermediate departments in the Germantown Friends School. Close correlation of the written work in all school subjects is the chief source of material. We find that manuscript writing meets the need of the young primary pupils but that it becomes illegible when the children grow older and wish to write rapidly. In the Germantown Friends School the change from manuscript to cursive writing is made in the fourth grade, as that has been found to be the most advantageous plan.

SELECTED REFERENCES ON KINDERGARTEN- PRIMARY EDUCATION¹

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The references included in this bibliography on kindergarten-primary education were published between April 1 and December 31, 1932,² and present materials dealing with problems of the kindergarten and the first three grades. A few general references covering the field of elementary education are listed because they include extensive discussions devoted to the lower grades. Studies in special subject-matter fields have been excluded except when such studies have been specifically restricted to the kindergarten-primary level. This arbitrary selection eliminates pertinent data that may be found in bibliographies of special subject-matter fields. Limitation of space further restricted selection from the large number of available references. The titles chosen have been grouped under the following headings: (1) general educational aspects; (2) organization, techniques, and curriculum; and (3) investigations and experimental studies.

Annotations of studies for the period April to June were made for the United States Office of Education by Edna Dean Baker, president of the National College of Education, Evanston, Illinois, assisted by Louise Fairwell, Martha D. Fink, Frances Kern, M. Frances McElroy, and Vera G. Sheldon. Annotations for the period from July 1 to December 31 were made by the present compiler.

¹ A prospectus of the complete cycle of twenty lists of selected references, with the names of the specialists preparing them, being published in this journal and the *School Review* may be found in the January number of the *Elementary School Journal*.

² There are also included two publications which appeared early in 1933 and one article appearing in March, 1932, which had not been previously listed.

GENERAL EDUCATIONAL ASPECTS¹

117. DAVIS, MARY DABNEY, and KEESECKER, WARD W. *State Legislation Relating to Kindergartens in Effect 1931*. United States Office of Education Pamphlet No. 30 (1932). Pp. 30.

Summarizes the characteristics of legislation relating to kindergartens, tabulates the legal provisions for their establishment and maintenance, and gives the census figures concerning four- and five-year-old children and number attending kindergartens.

118. DEMEYER, JOHN E. "The Kindergarten," *American Childhood*, XVIII (December, 1932), 9.

Deplores the tendency to balance school budgets by discontinuing kindergartens and notes that the constructive influence of kindergartens is reflected in improved methods in all grades and in emphasis on school and home co operation.

119. EVANS, J. M. *Social and Psychological Aspects of Primitive Education*. London, England: Golden Vista Press, 1932. Pp. 90.

Applies psychological principles to the interpretation of primitive education and evaluates latter in terms of character of adults. Stresses implications for modern child training.

120. HISSONG, CLYDE. *The Activity Movement*. Educational Psychology Monographs, No. 30. Baltimore: Warwick & York, Inc., 1932. Pp. x+122. Presents historical perspective of the activity movement, evaluates contributions to current unitary concept of education, and points out certain limitations in otherwise "defensible foundation."

121. ISAACS, SUSAN. *The Children We Teach: Seven to Eleven Years*. London, England: University of London Press, 1932. Pp. 176.

Reports marked individual differences at any given age rather than fixed stages in mental development. Gives extensive consideration to children of ages seven to eleven and argues for methods that meet individual differences.

122. JOHNSON, ELEANOR (Compiler). "The New School: Its Philosophy, Teaching Technique, and Curriculum," *Childhood Education*, IX (January, 1933), 171-210.

A series of articles dealing with the following current problems: the needs of a changing society, the psychiatrist's interpretation of the new school, growth in subject matter, fundamental principles in education, differentiation of kindergarten curriculums, social studies in the lower school, and the "whys and hows" of the activity program.

123. LANE, ROBERT HILL. *A Teacher's Guide Book to the Activity Program*. New York: Macmillan Co., 1932. Pp. viii+258.

Analyzes the educational philosophy of the "life-centered" school, presents expository accounts of units of work developed through classroom activities, and evaluates procedures in terms of educational philosophy.

¹ See also Item 110 in the list of selected references appearing in the March number of the *Elementary School Journal*.

124. PIAGET, JEAN, and Others. *The Moral Judgment of the Child*. Translated by Marjorie Gabain. London, England. Kegan Paul, Trench, Trubner & Co., Ltd., 1932. Pp. x+418.

Studies moral ideas regarding right and wrong as found in rules of juvenile games, in acceptance of adult authority, and in evidences of co-operation and justice.

125. *The School Health Program*. Report of the Committee on the School Child, Thomas D. Wood, Chairman. Section III, Education and Training, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xx+400.

Deals with composite provisions for safeguarding the health of the school child. One of thirteen publications prepared by Section III of the White House Conference.

- 126 "Status of the States," *School Life*, XVIII (October, 1932), 27.

Reports that data concerning kindergarten enrolment supplied by the states to the United States Office of Education indicate (1) that practically all public-school kindergartens are located in cities, (2) that approximately one-third of the four- and five-year-old children in cities with populations of twenty-five hundred or more are enrolled in kindergartens, and (3) that Nebraska leads with 80 per cent of city children in kindergartens, while South Carolina ranks last with 0.4 per cent.

ORGANIZATION, TECHNIQUES, AND CURRICULUM¹

127. BILDERSEE, DOROTHY. *Teaching the Primary Grades*. New York: D. Appleton & Co., 1932. Pp. xx+332.

Outlines psychological principles and presents practices developed in experimental schools at the kindergarten-primary level.

128. CAREY, ALICE E., HANNA, PAUL R., and MERIAM, J. L. *Catalog: Units of Work, Activities, Projects, etc., to 1932*. Lincoln School Research Studies. New York: Lincoln School of Teachers College, Columbia University, 1932. Pp. xii+290.

Lists, groups, and annotates seven thousand printed accounts of units of work, activities, bulletins, courses of study, books, pamphlets, etc. Tells where and how these may be obtained. The data presented are evidence of the strength of the movement to organize curriculums around units of child experiences.

129. CLOUSER, LUCY WELLER, ROBINSON, WILMA J., and NEELY, DENA LOIS. *Educative Experiences through Activity Units*. Chicago: Lyons & Carnahan, 1932. Pp. 352.

A record of activities carried on with primary classes. The contents are grouped into three parts: the theory underlying curriculum activities, suggestions for organization, and activities centered on the social studies.

¹ See also Items 38 and 39 in the list of selected references appearing in the February number of the *Elementary School Journal*.

130. DALGLIESH, ALICE. *First Experiences with Literature*. New York: Charles Scribner's Sons, 1932. Pp. xviii+162.
Deals with literature and methods appropriate in nursery, kindergarten, and primary classes. Includes an introduction by Patty S. Hill.
131. DEVEREAUX, SISTER MARY CECIL. "Children's Literature: Annotated Bibliography of Books and Periodical Articles about Children's Literature and Reading," *Children's Library Yearbook*, No. 4, pp. 125-68. Compiled by the Committee on Library Work with Children of the American Library Association. Chicago: American Library Association, 1932.
Deals with selection and guidance of reading of young children
132. DOLCH, EDWARD WILLIAM. "Exercises in Readers," *Elementary School Journal*, XXXIII (September, 1932), 59-66.
Classifies exercises found in primary-grade readers and analyzes functions of one type of exercises
133. HARDY, MARJORIE (Editor). *Reading Emphasis in School Activities*. Bulletin of the Association for Childhood Education. Washington: Association for Childhood Education, 1933. Pp. 46.
Summarizes discussions of the topic at the Cleveland meeting (1931) and gives papers and discussions at the Washington meeting (1932) of the association.
134. MCCALL, WILLIAM A. (Editor). *Teachers' Lesson Unit Series*. New York: Teachers College, Columbia University, 1932. Nos. 1-60.
A series of pamphlets describing units carried out in schools throughout the country in all phases of work in all grades. Each lesson unit discusses how the particular unit originated, the chronological development of the unit, children's bibliography, teacher's bibliography, and how the activity culminated. The following lesson units are pertinent to kindergarten-primary grades: Nos. 6, 9, 13, 15, 17, 20, 29, 33, 36, 37, 43, 44, 47-50, 53, 56, 57, 59, and 60.
135. MATHIAS, MARGARET E. *The Teaching of Art*. New York: Charles Scribner's Sons, 1932. Pp. xii+356.
Presents basic truths on which art rests and shows that success in teaching is dependent both on mastery of techniques and subject matter and on understanding of children. Condemns copy-work, patterns, and emphasis on skills rather than on ideas. Compact content rich in pictorial and verbal ideas.
136. MORTON, R. L. "Developing Number Ideas," *Grade Teacher*, XLIX (June, 1932), 770, 813.
Emphasizes the importance of meaningful experiences with concrete number prior to the introduction of symbols.
137. REED, MARY M., and WRIGHT, LULA E. *The Beginnings of the Social Sciences*. New York: Charles Scribner's Sons, 1932. Pp. xxiv+224.
Presents curriculums for kindergarten and first grade organized around children's experiences in a "changing social world." Applies the results of scientific

studies to interpretation of the child's needs, and, in so doing, attempts to lay the foundation for the social ideals included in the "art of living together." The introduction by Patty S. Hill reviews the history, philosophy, and practice of the kindergarten and shows its relation to primary grades

138. SANGREN, PAUL V., and WILSON, MARY C. *Instructional Tests in Reading*. Bloomington, Illinois: Public School Publishing Co., 1932.

Reading tests designed for Grades I-IV. Include word and phrase recognition, understanding sentences, following directions, and association of rhymes or sentences with illustrations. Prepared in Forms A and B.

139. TEEGARDEN, LORENE. "Kindergarten and Reading Reveals," *Childhood Education*, IX (November, 1932), 82-83.

Describes "reversal tests" administered to school entrants who show a tendency to reverse letters or words. Suggests corrective measures. The tests include reproduction from memory of letters and figures, discrimination of differences and similarities of letters and figures, and copying unfamiliar forms.

140. TEMPLE, ALICE (Editor). *A Better Beginning in Reading for Young Children—and Modern Trends in Teacher Preparation and Teacher Guidance: Proceedings of Two of the Conferences Held during the Cleveland Meeting*. Washington: Association for Childhood Education, 1932. Pp. vi+40.

Summarizes the discussions at the Cleveland meeting (1931) of the association. Contributors include Marjorie Hardy, William S. Gray, Laura Zibes, May Hill, Florence Bamberger, Macie Southall, and Mary A. Jacobs.

141. WRIGHT, LULA E. *A First Grade at Work: A Non-Reading Curriculum (Units of Work)*. Lincoln School Curriculum Studies. New York: Lincoln School of Teachers College, Columbia University, 1932. Pp. xii+248.

Describes a curriculum extending the "reading-readiness period" until the fund of experiences and the maturation of the eyes yield a "more economical basis" for beginning reading. Content based on class notes of day-by-day development of activities

INVESTIGATIONS AND EXPERIMENTAL STUDIES¹

142. BACON, CLARISSA R. "A Study of Kindergarten Trait Ratings," *Childhood Education*, IX (December, 1932), 133-38

Describes the formulation and the use of a rating sheet containing thirty-five traits. Children in eight kindergartens were rated for four consecutive quarters. *The reliability of the trait ratings were established by correlation methods*. The results indicate appreciable and measurable improvement in the traits rated

¹See also Item 77 in the list of selected references appearing in the March number of the *Elementary School Journal*

143. BELCHER, ESTHER L. "A Technique for Diary Analysis," *Child Development*, III (March, 1932), 53-56.

Reports a study of observation records of fifty-nine kindergarten children to determine the reliability of diary data in defining coarse units of behavior trends within groups.

144. MELLINGER, BONNIE E. *Children's Interests in Pictures*. Teachers College Contributions to Education, No 516. New York: Teachers College, Columbia University, 1932. Pp. x+52.

An investigation of two phases of children's interests in pictures. (1) interest in color as compared with black and white and (2) interest in realistic as compared with conventional style. The author tested 795 children of first, third, and fifth grades. The results indicate preference at all age levels for color, preference for three rather than two colors, and decided preference for realistic rather than conventionalized pictures.

145. STAATS, PAULINE. "A Vocabulary Study of First Grade Poetry," *Childhood Education*, IX (December, 1932), 127-28.

The author checked the vocabulary of eighty-seven poems recommended for first-grade reading with standard vocabulary lists and with vocabulary of prose material.

146. ZYVE, CLAIRE. "An Experimental Study of the Teaching of Arithmetic Combinations," *Educational Method*, XII (October, 1932), 16-18.

Gives results of a controlled experiment with seventy-six second- and third-grade children, comparing the effects of blackboard and lantern-slide presentations of arithmetic combinations.

Educational Writings

REVIEWS AND BOOK NOTES

The history of history-teaching.—The second volume of the Report of the Commission on the Social Studies¹ deals with a field the significance of which for teachers of social studies is equaled only by the prevailing lack of knowledge concerning it—the history of the teaching of the social sciences. The volume is brief and affords only an introduction to the field, but as “an exploratory survey of the lessons which past experience has to offer on the questions uppermost in educational discussion today” (pp. v-vi) and as a promise of a more extended discussion of the same field later by Professor Johnson, the volume is a distinct contribution.

Thirteen short chapters compose the volume. The first three deal with the rise of history before it became a “subject” in the school curriculum. Chapters iv to x summarize the work of outstanding teachers of history and theorists dealing with the function of history in education in the period 1575 to about 1850. The chapters in this group are: “History Enters the School Curriculum,” “*Der Kluge Hoff-Meister*,” “History for Emile,” “Joseph Priestley as a Teacher of History,” “The Treatment of History by Basedow and His Associates,” “Frederick the Great as an Advocate of School Instruction in History,” and “Karl Müller's Survey of History Teaching.” Chapter xi is “History in the Integration of School Studies”; chapter xii is “Fitting the Past to the Present”; and chapter xiii is “Using the Past To Explain the Present.” The first ten chapters of the book are chronological; the last three are topical. Much of the book is biographical in its general approach.

The scholarly basis for Professor Johnson's book is evident on every page. His résumé of important writings and events in the teaching of history includes material on the objectives, the curriculum, teaching equipment, and methods of procedure. His descriptions and analyses are truly mirrors “in which we see some of the most fundamental of our own discoveries” (p. 47), and they are well calculated to puncture many of our current conceits as well as to afford perspective for understanding the present. The volume will be stimulating and thought provoking to teachers and students generally. It seems to the reviewer,

¹ Henry Johnson, *An Introduction to the History of the Social Sciences in Schools*. Report of the Commission on the Social Studies of the American Historical Association, Part II. New York. Charles Scribner's Sons, 1932. Pp. vi+146. \$1.25.

however, that the book has two limitations, which the reader should keep in mind—limitations imposed, no doubt, by the brevity of the book, its position as one of a series of correlated volumes, and by the conditions under which it was written. First, the title of the book is broader than the book itself; it is much more a history of the teaching of history than a history of the teaching of the social sciences. While it is true that for centuries history was virtually the only social science (and with these centuries Professor Johnson deals admirably), it is unfortunate that his volume almost ignores economics, sociology, and social psychology and gives only meager space to geography and government. Second, the book is more negative than positive in its tone. On occasion it seems to have been written more to demonstrate that there is nothing new in education than to assay the developments of the past in a constructive manner. Withal, the book's values overshadow its defects, and the volume should be familiar to all who deal with teaching in the social-science field.

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Modern methods in the elementary-school subjects.—The book here under review¹ is a textbook in elementary-school methods with a misleading title, a pertinent introductory chapter, an excellent treatment of general teaching techniques, and a practical presentation of the special methods which pertain to the more important elementary-school subjects.

Just why the authors chose the phrase "directing learning" as the title keynote is difficult to explain, for the book places its chief emphasis on pupil self-activity and indirect learning. Any faults in the title, however, are more than made up in the introductory chapter, which is exceptionally "pertinent" because, as Webster says, it "relates to the subject or matter in hand" in a delightfully clear-cut and stimulative manner. The reader is at once convinced that the authors have their subject matter thoroughly in hand, and he is given, together with an early orientation, the appropriate mind-set referred to in later chapters.

The remaining chapters in Part I are devoted to the more general aspects of teaching and learning. The section includes a chapter each on the nature of learning, the various learning activities, the acquisition of knowledge, the patterns of conduct, and the needs of individual pupils. The authors assert that they desire to be progressive but not radical, steering between the conservatism of the more conventional school and the undirected "freedom" of the extreme progressive school. The reviewer would say that they have decidedly progressive leanings but that these are tempered throughout the book by the constant attention paid to related scientific studies. Part I affords the reader a brief but thoroughly up-to-date and sound treatment of general methods.

Part II is devoted to the special methods of teaching connected with reading,

¹ Walter S. Monroe and Ruth Streitz, *Directing Learning in the Elementary School*. Garden City, New York: Doubleday, Doran & Co., Inc., 1932. Pp x+480 \$2 50.

language, the social studies, arithmetic, handwriting, and the fine and the industrial arts. Here the authors, in the interests of unity, make something of an attempt to cast their special methods in the common mold of the preceding general methods. This procedure is of doubtful validity; certainly, it is unnecessary in light of the excellent array of carefully chosen special methods and devices which make up these chapters. The reviewer is particularly impressed with the helpful way in which the writers have combined scientific and progressive practices in their treatment of reading and arithmetic. In all the chapters the reader easily senses the familiarity of the writers with the pedagogical and experimental literature which bears on the subject under treatment. If any criticism were to be made of these later chapters, it would be to note the absence of reference to certain practical although less scientific teaching procedures which are in fairly widespread use.

Taken as a whole, the book may be recommended highly as a sound, up-to-date, stimulative treatment of modern methods in the elementary-school subjects. The reviewer commends it both for use as a general textbook and for individual reading.

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An experimental evaluation of the efficiency of the junior high school.—The junior high school as a distinctive type of school is today about twenty-five years old. According to the latest statistics from the United States Office of Education, there are at present something like sixteen hundred such schools in the United States and approximately three thousand other systems which have adopted most of the essential features of the junior high school. Yet there are those who characterize this new type of organization as a failure and prophesy its early abandonment. Among the many reasons that led to the development of the junior high school, two stand out prominently: (1) the desire to economize time by giving briefer program allotments to the so-called "fundamental subjects" in Grades VII and VIII and (2) the desire to prepare pupils better for senior high school and college by beginning the study of secondary-school subjects earlier than was formerly done. Critics have contended that the new type of school is not realizing either of these objectives, at least in any satisfactory manner.

A number of studies have been made relating to the questions at issue. For the most part, however, these have dealt with attainments of pupils after leaving the junior high school and have been confined to analyses of data gathered from single school systems. In a recent study¹ a different approach is made. Here the problem is restricted to the work done in the junior high school grades, and the study includes data from six different school systems. The author seized on the

¹ Bancroft Beatley, *Achievement in the Junior High School*. Harvard Studies in Education, Vol. XVIII. Cambridge, Massachusetts: Harvard University Press, 1932. Pp. xiv+92. \$2.00.

fact that the time allotments given to the so-called "fundamental subjects" in Grades VII, VIII, and IX are usually much shorter in typical junior high schools than the time allotments given the same subjects in typical un-reorganized school systems, and he sought to determine the relative gains in achievement made by pupils under these conditions within the two systems.

To carry on his investigation, Beatley selected six representative school systems in Massachusetts. Three of these systems were organized on the old 8-4 basis, while three were organized on the 6-3-3 basis. From these six selections three pairs of school systems were made, care being taken to insure an approximate equality with respect to size, community interests, and economic resources in each pair. Moreover, selection of the three junior high school systems was originally made so that a difference in time allotments would appear between these schools and the 8-4 systems with which they were compared.

By the use of the Stanford Achievement Test and the Otis Self-administering Tests of Mental Ability as the measuring instruments, the seventh-grade pupils in the six school systems selected were tested in the autumn of 1927 and again retested as ninth-grade pupils in the spring of 1930. Not only were the school systems paired on a basis of comparable data, but the groups of pupils in each 6-3-3 system were paired with similar groups in the paired 8-4 system with respect to sex, chronological age, educational age, and intelligence quotient at the seventh-grade level.

The summarized findings of the investigations are as follows:

1. In none of the functions measured does the difference in gain favor consistently either the non-junior school or the junior high school.
2. In each of the functions measured at least one of the six paired groups shows a substantial difference in gain.
3. In the detailed aspects of achievement, twenty-four of the sixty-six differences in gain are substantial.
4. Of the twenty-four substantial differences, twelve favor the non-junior school, and twelve the junior high school.
5. Of the twenty-four substantial differences, eleven are found in paired groups of boys, thirteen in paired groups of girls.
6. In eighteen of the twenty-four substantial differences, superiority in gain is associated with inferiority in initial ability.
7. In total achievement, two out of six paired groups show substantial differences in gain—one in favor of the non-junior school, the other in favor of the junior high school [p. 79].

Clearly, in so far as the specific question here in dispute is concerned, Beatley's study has made out a case for neither the junior high school nor for the older form of school organization. As he himself states, "Neither type of school has demonstrated its superiority over the other in furthering gains in achievement in fundamentals" (p. 79). This conclusion will, of course, be disappointing both to the extreme antagonists and the extreme protagonists of the school-reform program. Nevertheless, the data collected warrant no other deduction.

However, considered indirectly, Beatley's study plays completely into the hands of the advocates of junior high schools. For certainly, if equally satisfactory results can be obtained in "fundamentals" in Grades VII, VIII, and IX by giving much less time to the teaching of these subjects than is given in other systems, then much greater time is made available in those grades for work on things other than "fundamentals." Moreover, to proceed in this manner is true economy. Indeed, this economy in time is precisely the main thing for which Eliot and the Committee of Ten pleaded forty years ago, when the impetus producing the junior high school was started. To eliminate waste and still maintain efficiency—these are the aims of every school administrator. By devoting less time to fundamentals, the junior high school has more time in which to extend the scope of general education and to offer to young people a truly vitalizing program of studies. This fact is the glory of the junior high school. By reason of it, as Beatley says, "It has enriched the program of studies through the introduction of presumably more vital content of a social and scientific nature; it has broadened the scope of its instruction in mathematics; it has made an earlier beginning on foreign-language study; it has enlarged the opportunities for participation in art and music, in the manual, domestic, and commercial arts, and in physical activities" (pp. 82-83).

Possibly critics may find weaknesses in some of the assumptions and procedures adopted by the author in his study. Indeed, the investigator himself anticipates these. For example, he frankly acknowledges that, in making his comparisons, he ignored such factors as differences in the professional competence of teachers, differences in standards of promotion, differences in the quality of professional leadership, differences in salary schedules, differences in pupil-teacher ratios, and other differences of similar types. Rather he assumed that such elements "probably would not operate consistently to favor one type of school organization rather than the other" (p. 19). With this assumption the reviewer agrees. Uncontrollable factors of many kinds are inherent in most problems that concern practical school situations. This fact, however, in no wise detracts from the validity and the value of such studies, nor does it detract from the present investigation. The author has done a highly creditable piece of work and has done it under difficulties. To the reviewer, his data are representative and adequate, his procedures defensible and appropriate, and his conclusions valid and expressive. The study is a real contribution to the science of education and especially to the literature relating to the junior high school. In particular, the book will furnish much sound factual material to those who are defending the newer type of school organization against the attacks of those who seek to undermine its development on the score that it is needlessly expensive and inefficient.

All educators, whether friends or foes of the school-reorganization movement, will wish to read this book.

C. O. DAVIS

UNIVERSITY OF MICHIGAN

An evaluation of teacher-tenure legislation—The movement to secure protected tenure for the public-school teacher has resulted in legislation of a type that should be frankly recognized as experimental. Such legislation has been supported by the leaders in the organized educational associations with a view to protecting the teacher from petty political and social attacks. It was thought that, by eliminating the annual-election plan and insuring tenure during efficiency and good behavior, the teaching staff would be stabilized, a higher type of talent would be attracted to the profession, and the efficiency of the schools would be increased. Strong opposition to such legislation has been made by superintendents and boards of education because of the difficulties encountered in dismissing undesirable teachers on tenure. Many school officials are reluctant to place teachers on tenure. They contend that such teachers become more difficult to supervise, less progressive, and less co-operative. The unwillingness to place teachers on tenure is said to result in the dismissal of many satisfactory teachers at the end of the probationary period, in increases in teacher turnover, and in a decrease in the efficiency of the schools.

Since the first state-wide law providing tenure of service for public-school teachers was enacted by the legislature of New Jersey in 1909, thirteen other states and the District of Columbia have enacted similar legislation. Cities have favored such legislation to an even greater extent. In 1924 there were forty-two cities in twenty-two states with tenure regulations. Although the legislation in most of the states is too recent for a just appraisal, that of New Jersey should be amenable to thorough evaluation. Such an evaluation has recently been reported by Holmstedt.¹

In order to determine the effects of the New Jersey tenure law on teacher dismissal, transiency, turnover, professional improvement in service, and policies of personnel administration, the author collected data by the questionnaire method from 42 per cent of all the school systems in New Jersey and from 64 per cent of the systems in Connecticut having teaching staffs of from 10 to 350 teachers. Since Connecticut does not have a tenure law, comparisons between systems in the two states reveal, at least to some extent, the effects of tenure legislation.

The New Jersey tenure law provides that teachers cannot be discharged after serving the probationary period of three years "except for inefficiency, incapacity, conduct unbecoming a teacher, or other just cause." The charges must be written, and the teacher must be given a hearing before the board of education with privilege of counsel. If dismissal follows the hearing, the teacher may appeal to the commissioner of education of the state.

It was found that the rate of dismissal in the case of elementary-school teachers, principals, and supervisors is slightly higher in Connecticut; in the case of high-school teachers and special teachers, it is higher in New Jersey. None of the

¹ Raleigh W. Holmstedt, *A Study of the Effects of the Teacher Tenure Law in New Jersey*. Teachers College Contributions to Education, No. 526. New York: Teachers College, Columbia University, 1932. Pp. x+112. \$1.50

differences is statistically significant. Approximately 60 per cent of all dismissals in New Jersey occur during the first year of service as compared with 44 per cent in Connecticut. Between the first and fifth year of service differences are not statistically significant, but after the fifth year dismissals in Connecticut are 14.9 per cent higher. Superintendents in New Jersey reported that 63 teachers of a total of 1,007 would be dismissed if they were not employed on tenure. During the twenty years between the enactment of the tenure legislation and the time of the study, forty-two cases of dismissal had been appealed to the commissioner of education. Twenty of these were decided in favor of the teacher.

Total teacher turnover in New Jersey is 9.6 per cent, in Connecticut 13.5 per cent, the difference being eight times its probable error. When dismissals are subtracted from total turnover, it is found that 6.6 per cent of New Jersey teachers and 10.8 per cent of Connecticut teachers voluntarily terminated their service. Comparable data concerning teacher turnover in New Jersey show an increase of 2.3 per cent between 1912 and 1925.

The effects of tenure on the professional improvement of teachers in service were determined by comparisons of the two groups on the bases of summer-school credits earned, professional books and periodicals read, and membership in professional organizations. The data revealed that tenure had no effects on the progressive tendencies of teachers. However, the investigator failed to point out in connection with this conclusion that in New Jersey 85 per cent of the teachers not on tenure returned the questionnaire and only 68 per cent of those on tenure returned it. This fact points strongly to the conclusions that those teachers on tenure who answered the questionnaire were a highly selected group and that any conclusions based on the data, as well as the statistical techniques used in interpreting the data, are invalid. It also indicates that there is a real difference in the progressiveness of the two groups.

The facts gathered in this study will be a source of no great satisfaction either to those who favor or to those who oppose tenure legislation. They point to the conclusions that the dismissal of unsatisfactory teachers should be less difficult and that the professional improvement of teachers on tenure must be stimulated through the salary schedule.

Considering the limitations of the questionnaire method, the study is worthy of commendation. It is difficult to understand why a state department of education operating under tenure legislation would not be sufficiently interested in the evaluation of the law to insure an investigator returns of 100 per cent on the facts which are pertinent.

WALTER W. COOK

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Progress in measurement by direct observation.—The past six years have witnessed a rapidly growing group of investigations employing methods of measurement by direct observation, which have been variously characterized as

"time-sampling," "repeated short samples," "natural-history approach," "situational analysis," etc. The reviewer's bibliography of studies employing some variation of time-sampling techniques now numbers fifty titles, and a report by Arrington¹ represents a worthy addition. The monograph is one of a series in experimental sociology conducted at the Child Development Institute of Teachers College, Columbia University. For a complete background to the investigation the reader should refer to preceding reports by Dorothy Swaine Thomas and students working under her direction.

Part I of the present study is devoted to a critical examination of techniques for studying the social, material, and self components of undirected activity. Part II presents individual and normative data, consistency of evidence with data collected by other research workers on the same children, the interrelations of variables, and a preliminary attempt at prognosis.

The subjects of the investigation were twenty children, ranging in age from sixteen to thirty-two months at the beginning of the observation period. Since the primary emphasis of the study was on the development of method, the number of cases was felt to be sufficient, and the author makes clear the tentative nature of the normative summaries.

A considerable period of exploratory work preceded the development of a practicable technique. In the final approach to the problem the investigator studied the following categories of behavior in children: (1) contact with material, (2) walking or other physical activity not accompanied by contact with material, (3) absence of overt activity, (4) talking, (5) physical contact with persons, (6) laughing, and (7) crying. The behavior to be included in these classifications was described in some detail, and a code was used in recording. Two experienced observers made simultaneous observations for five-minute intervals. Twenty-four five-minute records were made as a minimum. The method of recording permitted further fractionation of the time unit.

Analyses were made in terms of both duration and frequency of occurrence of the behavior appearing in the records. The reliability data are reported in too great detail to warrant specific mention here. Suffice it to say that the coefficients of correlation reported for reliability are usually in the neighborhood of .90. Two of the more stable interrelations are between age and "talking to persons" ($.73 \pm .05$) and between age and social contacts initiated ($.66 \pm .06$). The correlation of $.54 \pm .08$ between total physical activity and vocalization may be indicative of the concomitance of two types of extrovert activities.

Talking to persons ($.62 \pm .11$) and talking to self ($.46 \pm .14$) appear to give the most enduring picture of the behavior patterns of children within the various categories of behavior studied over an interval of a year. An increase in the amount of verbalization and a relative shift from non-social to social talking in the age period from two to three years were also marked features of the data.

¹ Ruth E. Arrington, *Interrelations in the Behavior of Young Children*. Child Development Monographs, No. 8. New York: Teachers College, Columbia University, 1932. Pp. xviii+156.

The writer of the monograph states: "No attempt has been made to relate the findings to intelligence, as measured by mental age or intelligence quotient, since psychological tests, as thus far developed, are recognized to be unsatisfactory measures of the mental ability of very young children" (p. 83). To the reviewer, even if the relatively unsatisfactory character of the instruments be granted, this position appears to be untenable in advance of use in view of the considerable number of stable trends reported in existing studies.

The student of time-sampling as a method of research will be interested in one generalization arrived at during the evolution of procedure: "In this discussion of the evolution of a method, emphasis has been repeatedly placed upon two fundamental trends in the process, the tendency to divide the total behavior complex into finer and finer units and the tendency to eliminate every element capable of different interpretation that might reduce the reliability of the data recorded" (p. 27).

The report is written primarily with the needs of the research specialist in mind. Investigators of the behavior of young children will find the report rich in suggestions for further study.

WILLARD C. OLSON

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The teaching of poetry.—Hooper's book¹ presenting the teaching of poetry in the elementary school is small in size but large in content. The book treats in turn three major themes: teaching objectives and procedures, the integration of poetry with other school subjects, and suggestions for guiding pupils in creative work.

The first three chapters discuss the place of poetry in the new curriculum and set forth the present-day objectives as twofold: "the appreciative [growth] and the creative growth of the child" (p. 42). Chapter iv assigns to the primary grades the teaching of "rhythm, meaning, and pictures" (p. 41) and to the middle grades instruction in "sound, sense, and suggestion" (p. 65). At the close of this part of his volume the author quotes Alexander Hadow (*On the Teaching of Poetry*): "' . . . teaching poetry is like life . . . we lay down a few principles that ought to be followed, but . . . the method of applying these principles varies with the class, the poem, and the teacher'" (p. 82).

The second theme is developed in chapter v by means of many concrete suggestions for associating poetry with the social studies, particularly with world-exploration, with the development of America, and with our European backgrounds. If the author had allocated such synthesis to the upper grades of the elementary-school curriculum, his program would have had better balance. To grasp the significance of poetry as interpreting life in the larger sense is probably too difficult for pupils of the primary grades.

The third theme, creating poetry, presented in chapter v, denies any purpose

¹ John Hooper, *Poetry in the New Curriculum: A Manual for Elementary Teachers*. Brattleboro, Vermont: Steven Daye Press, 1932. Pp. 136.

of creating poets but maintains that in attempts at creative writing the children learn how to discriminate among words, acquire a sense of arrangement of ideas, and attain "a realization that language is as alive as the moment in which it is used" (p. 113).

R. L. LYMAN

Evaluating pupil progress.—The content of a recent monograph¹ may be inferred from the title *Rating School Pupils*. The first three chapters deal, respectively, with the classification of criticisms most frequently directed against conventional pupil reports, means of increasing the range of teacher judgments of pupils' work, and methods of making ratings more objective. The fourth chapter, entitled "Finding a Standard for Rating," is devoted to the development of a scale for grouping and comparing scores of classroom tests and for reducing them to composite scores. The scale is "analogous to the T-scale in use with standard tests" (p. 30) and is a "standard scale derived from the standard deviation from the mean of a normal distribution" (p. 49). The use of a device by which a series of raw scores can be automatically scaled is also explained. How the measurement of pupil effort may be facilitated by the use of the scale under discussion forms the main material of the final chapter.

No reference is made to departures from conventional schemes for marking pupils, such as recording only the passing or the failing of a mastery test on the essentials of a given unit or indicating satisfactory or unsatisfactory performance in citizenship traits without reference to standing in classroom subjects. The book is written in concise and non-technical style, and its content should prove stimulating to instructors in educational measurement, to principals, and to classroom teachers.

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¹ Charles Russell, *Rating School Pupils*. New York: Teachers College, Columbia University, 1932. Pp. 74.

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Educational News and Editorial Comment

A PROPOSED PLAN FOR THE ORGANIZATION OF EDUCATION IN ILLINOIS

Some time ago the Illinois Commission on Taxation and Expenditures employed Griffenhagen and Associates, consultants in administration and finance, to draft proposals for the reorganization of local government in Illinois. One portion of the report which has recently been made public deals with the problem of simplification of the structural organization of the state school system. That some type of centralization and simplification of the mechanisms of school administration is imperative is made perfectly clear by the following facts: There are in Illinois 12,085 school districts of nine different types; it is estimated that there are 47,109 elective officials exercising some degree of control over school affairs; 70.88 per cent of all the school buildings in Illinois are one-room schoolhouses; there are in the state 1,777 districts having no more than ten pupils and 4,284 districts having no more than fifteen pupils; there is no state board of education nor any other board or body having centralized control over many important educational functions. Moreover, the present administrative organization makes it difficult, if not im-

possible, to provide anything resembling equality of educational opportunity. For example, in districts having only one teacher assessed valuations vary from \$12,610 to \$2,898,591, a ratio of 1 to 230; "the cost per year per pupil varies from \$22 to \$171; and the percentage of teachers who are normal-school graduates varies from 7.9 to 91.3 per cent." Indeed, if the state could discover some formula for equalizing educational opportunity, the result would merely be the perpetuation of the existing unsatisfactory type of organization. The report recommends:

That a plan of reorganization be adopted which will not only do away with the complexity, confusion, and conflict involved in the existing situation and substantially reduce the number of taxing units, elected officers, and administrative officials but make for substantial improvement in the quality of educational service. This plan is described in the following series of proposals.

1. That the people of the state of Illinois take steps to establish and organize "community school units" as the local instruments of government for the maintenance and administration of the common school system. It is proposed that each of these local community school units embrace a homogeneous territory having natural and logical boundaries and a population possessing common economic and social interests and sufficiently large to make possible the setting-up of a truly economical and effective school organization but not too large to preclude local control or interest. It is suggested that the 12,085 school districts in Illinois be reorganized into not more than 400 or 500 such community school units.

2. That the local units be managed by elected "community boards of education" functioning administratively through professionally qualified superintendents.

3. That the responsibilities of the state for the functions of planning and guiding and supervising its system of free schools be exercised through a state department of education headed by a state board of education made up of lay members appointed by the governor for overlapping terms. It is intended that this citizen state board shall bring about the continuity essential for the progressive guidance of a non-political administrative department, shall take over the functions of all state educational agencies now existing, and shall function through a technical staff fully equipped to provide the school officers in charge of the community units with adequate advice and assistance.

4. That the legislature look to the state board as the agency through which it may keep in touch with the educational needs of the state and by the help of which it may plan such legislation as will meet the needs of the school system

5. That, as its first duty, the state board of education make the necessary detail studies of community characteristics, needs, wishes, conditions, wealth, enrolment, plant, and the like and devise a plan of districting that will best meet

all of the requirements of an efficient system of free schools and that thereupon community school units be established in conformity with such plans. It is intended that the legislature should prescribe the standards and specify the procedure, including notice, hearing, and review, to be observed by the state board in establishing the local units of school administration.

6. That there be no intermediate unit of school administration. The establishment of a state board and a staff and the enlargement of the size and powers of the local units provide for every function that an intermediate unit could possibly perform and provide for it more simply and economically. Should the proposed plan be adopted in its entirety, the expense of the office of the county superintendent of schools in every county can be eliminated.

7. That the responsibility for the management of the permanent school township funds and township school lands and other property from the school township trustees and treasurers be transferred to the state board of education and the state treasurer; that responsibility for the sale of school lands be transferred from the county superintendents to the state board of education; that the community boards be empowered to select and designate depository banks for the current funds of their respective units and to have the superintendent of each unit, functioning as its chief executive officer, made responsible for receiving, depositing, disbursing, and accounting for current funds in accordance with the appropriation resolution of the community board, the general law governing the handling and expenditure of public funds, and the procedures prescribed by the state board.

It is believed that the proposed changes would reduce the cost of maintaining the schools and, at the same time, would result in a more effective educational system than the present plan of organization. The anticipated benefits are summarized as follows:

BENEFITS EMPHASIZING ECONOMY

1. The number of school districts would be reduced from 12,085 to fewer than 500.

2. The number of elected school-district officials would be reduced from over 47,000 to 2,500 at most, probably to 2,000 or fewer.

3. The number of paid appointive employees, including secretaries of boards, office clerks, business managers, attorneys, nurses, attendance officers, and supervisors, would be greatly reduced.

4. The elected school-township treasurers and school-township trustees would be eliminated, 4,971 of the former and 1,657 of the latter. The half-million dollars now paid to or spent by them would be saved.

5. Another half-million dollars now being expended to maintain the offices of the county superintendents of schools would be saved. Another 102 elected officials and the positions of all their assistants would be eliminated.

6. The losses now being incurred through duplication of buildings, equipment, and instructional service will be curbed.

7. The loss through the duplication of highly paid administrative officials and organizations made necessary by the dual system of school districts would be saved.

BENEFITS EMPHASIZING EDUCATIONAL EFFECTIVENESS

8. The serious educational handicaps involved in the present dual system of educational administration would be eliminated. A unified, integrated, well-articulated school system would replace the two competing systems in existence in many important areas. Such developments as the use of junior high schools would become possible in those areas.

9. Provision would be made for much-needed action and leadership in the interests of state-wide standards and of uniformity of adherence to sound educational and financial policies and procedures

10. The effectiveness of administrative and supervisory officers would be increased because the community unit proposed is small enough for personal supervision yet large enough to provide for these activities economically.

11. The effectiveness both of lay boards of education and professional superintendents of schools would be increased through a clear separation of powers and functions and a definite fixing of responsibility.

12. It would become possible to reduce the number of inefficient one-room, one-teacher schools through local action. This will result in better educational advantages to the rural areas.

13. The community unit would provide a larger area with greater resources as a base upon which taxes may be levied, and thus the serious inequalities in burden would be reduced. The proportionately heavier tax load carried by the farmer would be reduced.

14. The larger area and greater resources of the community school unit would allow the state to put into effect a state equalization program and administer the plan economically.

NON-PROMOTION IN THE ELEMENTARY SCHOOLS

Almost thirty years ago William H. Maxwell, superintendent of schools of New York City, called attention sharply to the problem of non-promotion in the public schools. A few years later Leonard P. Ayres, in his *Laggards in Our Schools*, made the first comprehensive analysis of pupil progress from grade to grade. More recently various administrative plans and policies have been employed with the view of reducing retardation. As a result, retardation has been materially lessened. A recent study entitled *Non-Promotion in Elementary Schools*, by Hollis L. Caswell, indicates, however, that the problem of retardation has by no means been satisfactorily solved.

In many communities there is still a startlingly high rate of non-promotion. The rate of non-promotion varies markedly in various sections of the country, in different cities, in the various schools of the same city, in the different grades, and between boys and girls. The following passages are quoted from Mr. Caswell's study.

Data are first presented on non-promotion in seven states. These data, taken from two state surveys and five reports of state superintendents, are for the year 1931 in three states, for 1930 in two states, for 1929 in one state, and for 1928 in one state. The total school enrolment in these seven states is over two and a quarter million children.

. . . the amount of non-promotion varies from 4.9 per cent in Utah to 16.7 per cent in Virginia. This is a surprisingly wide variation; especially so, when the small number of states from which data are available is considered. That the percentage of children who are not promoted in Virginia should be three times the percentage not promoted in Utah is indeed a striking fact. Obviously, promotion practices differ significantly among states. It is possible, also, that there are regional differences, although the available data are entirely inadequate for a conclusion on this point. Nevertheless, it is worthy of note that the two western states in the list are lowest in the amount of non-promotion while the eastern states are highest. . . .

The extent of non-promotion in cities may be estimated . . . for thirty-seven cities that range in size from quite small to very large. The total school enrolment of these cities is over one and a quarter million. In twenty-three cities the data are for 1930, 1931, or 1932; in fourteen they are for years before 1930. . . .

The amount of non-promotion in these thirty-seven cities varies from 2.3 per cent in Long Beach, California, to 16.7 per cent in Nashville, Tennessee. The remaining cities are distributed quite evenly between these extremes, thus indicating, as in the case of the states, wide diversity of practice. Obviously, the problem of non-promotion is handled quite differently in a city that finds it necessary to require the repetition of their grades by only slightly more than two pupils out of each hundred and in a city that requires almost seventeen pupils out of each hundred to repeat their grades.

These variations among cities, as in case of the states, suggest the probability of regional differences. Eight out of the ten cities with the lowest percentages of non-promotion are located in states west of the Mississippi River while seven out of the ten cities with the highest percentages of non-promotion are on the Atlantic seaboard.

The median amount of non-promotion among these cities is approximately 8 per cent. This average is considerably below the average for the states. . . .

An examination of practices within school systems throws further light on the status of non-promotion. . . . As will be noted, there are wide variations among schools in the same city. In New York City one school required 32 per

cent more pupils to repeat their grades than did another school. This wide variation, of course, is among a very large number of schools, in all 561. In Santa Monica, California, however, with a total of nine schools, one school required 30.7 per cent more pupils to repeat their grades than did another. In contrast, Alhambra, California, also with nine schools, had a variation of only 4.8 per cent between the school with the smallest and the school with the largest percentage of non-promotion. The medians of the variations in non-promotion among schools in the fifteen cities under consideration is 16 per cent. . . .

Wide variations in promotion practices from school to school in the same city are indeed hard to justify. They probably indicate that little or no effort has been made to solve promotion problems on a city-wide basis and that each school has been left largely to its own devices. Practice, in all probability, has been dominated by the belief of the principal or of individual teachers. This is manifestly unfair to children. It suggests that a child's promotion is probably dependent in large measure upon an individual's whim or caprice. If the child happens to attend one school, his chances for promotion may be very good, while if he attends another school, his chances may be relatively poor, and there is reason to believe that this is true regardless of the achievement of the pupil

In view of the wide variations in rates of non-promotion among schools of the same city and the evidence, limited as it is, that non-promotion is not related directly to achievement, the conclusion appears to be justified that variations in the amount of non-promotion in different schools is the result of chance elements, such as the beliefs or whims of particular principals or teachers.

Non-promotion varies not only from school to school in the same city but also from grade to grade. Data related to this point are given . . . for thirty-five cities involving an enrolment of one and three-quarter million pupils. Twenty-two of these cities report non-promotion by half grades and thirteen by whole grades.

There is a decided tendency for the first grade to have a considerably higher rate of non-promotion than other grades. Grade I B, on the average, has 15 per cent non-promotion, while in Grades I A and II B the rate drops to 10 per cent. The rate for the remaining grades is between 4 and 7 per cent. The same condition exists in schools for which data are for whole grades. The first grade has a rate of non-promotion, on the average, of 16 per cent, while the remaining grades have rates between 8 and 10 per cent.

Variation among cities in rate of non-promotion is also greatest in the first grade. The variation in cities with reports for half grades is 22 per cent in Grade I B, and in cities with reports for whole grades it is 26 per cent for Grade I. With one exception the variation for other grades is from 10 to 14 per cent. For Grade V the variation is 20 per cent.

Variations in rate of non-promotion for different grades, as revealed by the data here presented, are not significant except in the first grade. The excessive rate in the first grade, as compared with other grades, indicates basic maladjust-

ment in first-grade work. This condition, of course, is generally recognized by those who work with the primary grades, and a variety of efforts are being made to correct the situation. More adequate understanding of the function of promotion by first-grade teachers would contribute much to the correction of the difficulty. . . .

We turn next to consideration of the relation of non-promotion and sex. Data for seven cities involving a school enrolment of about a quarter of a million pupils were found on this point in four surveys, one research bulletin, and two annual reports. The range of non-promotion for these cities is from 2.3 per cent to 16.7 per cent. In all of these cities . . . a higher percentage of boys failed than girls. The largest difference was in Nashville, where 6.9 per cent more boys were retained in their grades than girls. The smallest difference was in Long Beach, where the amount was 1.3 per cent. . . .

The foregoing analyses lead to the following conclusions:

- a) The rate of non-promotion in different cities and states varies widely. The range probably approximates 2 per cent to 20 per cent.
- b) The average rate of non-promotion for all grades approximates 10 per cent.
- c) There appear to be regional differences in the extent of the use of non-promotion.
- d) Schools in the same systems differ widely in the extent to which they employ non-promotion, the difference in rate being as high as 30 per cent.
- e) The rate of non-promotion is significantly higher in Grade I than in other grades.
- f) The rate of non-promotion in B sections of grades tends to be higher than in A sections of grades.
- g) The rate of non-promotion is higher for boys than for girls.
- h) In general, the amount of non-promotion has been somewhat lowered during recent years. The major characteristics of the practice, however, as pointed out more than thirty years ago, exist today in numerous schools. As these characteristics indicated an unsolved problem at that time, they suggest the persistence of the problem.

IS NON-PROMOTION A DEFENSIBLE POLICY?

A study of the effects of non-promotion in the schools of Philadelphia has been made by W. Walker Cheyney and Philip A. Boyer, of the Division of Educational Research, Philadelphia. The following paragraphs are quoted from the report of their investigations.

Philadelphia has reduced its non-promotions by 35 per cent during the past fifteen years. Most of the reduction has taken place in Grades II-VI. Results from four recent Philadelphia studies agree in pointing out the probability that high promotion rates are more efficient than lower promotion rates in terms of pupil achievement per year of school life. The studies consisted of the following

comparisons between groups of schools whose average intelligence quotients were equal: (1) high-promotion-rate schools with low-promotion-rate schools, (2) high-retardation schools with low-retardation schools, (3) past with present performance of schools which showed marked increases in promotion rates, (4) schools which had noticeably decreased their over-ageness in a two-year period with schools that showed increased over-ageness during the same period.

In general, teachers require pupils to repeat the work of a grade either because they feel that this repetition will be to the best advantage of the pupil concerned or because it is necessitated by the pupil's inability to do the work of the next grade. Specific reasons advanced for not promoting pupils, and findings in reference to them, may be listed under six headings:

1. *Certain pupils are required to repeat grades because teachers believe that this will teach them to work harder and thus make them more successful individuals.*—Studies in Philadelphia indicate that cases of serious failure are, almost without exception, due to a level of mental ability which cannot keep up with the requirements set or to excessive absence due to illness. One study of the ratio of achievement to ability for four hundred eighth-grade pupils showed that this ratio was not materially higher (1.3 educational-quotient points) for pupils who had been successful than for pupils who had failed in several seventh- and eighth-grade subjects, indicating that the achievement of a pupil is determined not by his effort but by his intelligence quotient.

In addition to the fact that pupils fail because they do not have a sufficiently high intelligence quotient rather than because they have not put forth a reasonable amount of effort, we find that forcing pupils to repeat grades does not make them successful to such an extent that failure in the future is avoided. On the contrary, serious failure seems to breed discouragement, a sense of insecurity, and further failure.

The efficiency of a school system, in so far as it can be measured by achievement in subject matter, should be judged by the extent to which each pupil is led to attain the highest standards of workmanship of which he is capable. Failure to attain the highest degree of efficiency is frequently due to inadequate determination of individual pupil standards. Results of standardized tests indicate that standards frequently are set too low for pupils with high intelligence quotients

On the other hand, the fact that a pupil with an intelligence quotient of 90 has but one chance in ten of escaping retardation of one or more terms from Grades I A to VIII B indicates a lack of success in providing individual goals for pupils with intelligence quotients below 100. City averages do not constitute real standards for most pupils in this group. A pupil of low intelligence quotient is working efficiently only when a series of adequately determined individual standards, which he can attain, have been set up and when he has been trained to attain these standards consistently. After adequate standards have been determined for each pupil, the consistent attainment of these standards is the responsibility of the school. Motivation of the work and continual insistence

upon living up to attainable individual standards are the only means by which this goal may be reached. Philadelphia is working toward an increased use of intelligence quotients as indication of pupil ability so that attainable and adequate standards may be set for each pupil.

While no pupil should be allowed to feel that the work is completely beyond his ability, each pupil should be given work which challenges his highest efforts. If the work is made sufficiently difficult to be stimulating, the pupil will frequently meet with temporary failure, and he must be trained to rise above and to overcome such discouragements. Wholesome training in overcoming temporary obstacles is, however, a very different matter from asking a pupil to repeat the work of a whole grade section.

2. *Certain pupils are failed because it is believed that a repetition of the work of the grade section will lay a better foundation for future progress.*—While our studies do not present evidence which indicates that such a reason is never valid, a few instances which are representative suggest the possibility that this hoped-for result is not always achieved:

a) In most cases of serious over-ageness in Grades IV–VII where the teacher specified reading weakness and suggested that a grade section be repeated to help remedy this condition, a search of the records showed that the pupil had repeated one or more times in the first or second grades. Evidently such previous repetitions had failed to provide adequate basic reading skills.

b) The average over-age non-promoted pupil in Grades IV and V has a level of achievement on standardized tests equal to that of the average of the lowest 25 per cent of the pupils who are promoted. His learning rate (intelligence quotient) is, however, very low. It is his low learning rate and not his low level of achievement which prevents success whenever new work is attempted. No amount of repetition will remedy this situation.

c) Of 316 cases of VII A (low-seventh grade in Philadelphia) over-age pupils who were not promoted to VII B in June, 1931, only 56 persisted in regular classes and were promoted to VII B in January, 1932, and of these 56, 11 dropped out of regular classes before June, 1932. Thus, of the 316 pupils failing at the end of June, 1931, at the beginning of June, 1932, only 45 remained in regular classes without subsequent failures. Doubtless many of these 45 will fail at the end of June. The significant fact is that in June, 1931, nearly all the teachers of these failing pupils stated that they felt the repetition of the VII A work was necessary because the pupils needed better foundations or better habits of work.

In view of the continuing accumulation of evidence of the above types, it would seem to be a reasonable suggestion that repetition of a grade section, to improve future school work, should not be tried a second time in the case of any one pupil. If it was really successful, it will not be needed again. If the trouble was not permanently overcome, it is an indication that the real cause is deeper, probably lower-than-average intelligence quotient, and a subsequent failure cannot be expected to do any more good than the first one.

3. *Certain pupils who learn more slowly than the average are failed from time to time because it is believed that otherwise they will just skim over the work of each grade section and not really master any of it.*—Our studies showed two things. First, these chronic failures do not have the mental ability really to master the work, no matter how often they repeat. Second, pupils in schools with higher promotion rates and lower retardation learn more per year of school life than pupils in schools with similar average intelligence quotients but with lower promotion rates and higher retardation. Achievement should be considered in human terms, namely, in terms of progress per year of the pupil's life rather than in terms of administrative units, or achievement per grade section.

4. *As long as teachers and principals take pride in the achievements of their pupils on standardized tests in each grade section, there will remain a natural tendency to hold up certain barriers to the entrance of pupils into each higher grade section. Such barriers tend to increase the average mental age for each grade section.*—This situation may be overcome by making comparisons not on an absolute scale but on a relative scale which measures achievement in terms of average intelligence quotients of pupils and also in terms of achievement per year of school life.

To facilitate making comparisons on the latter basis, a chart has been developed for the use of principals who desire to make comparisons between achievement in their own schools and achievement in the city as a whole. This chart takes into consideration not only the average intelligence quotients of the pupils in a given school but also the median of their chronological ages by grades. It is based on the principle that, if two schools have equal average intelligence quotients, the school with the higher median chronological age in each grade should be expected to make higher scores on achievement tests.

5. *Many teachers feel that, without the stratifying influence of uniform requirements for promotion from grade to grade, the groups in the upper grades would become so heterogeneous that group methods of instruction would be impossible.*—Actual test results in Philadelphia show, however, that, even under conditions where promotions have been based largely on achievement, there exists a wide range of ability in the upper grades. Comparison of seventh-grade test scores with McCall's T-scores, based on the abilities of all twelve-year olds, shows that the middle 80 per cent of all twelve-year olds has a range of 5 grade-score units, while the middle 80 per cent of all the seventh-grade pupils has a range of 3.75 grade-score units. Moreover, there is reason to believe, in the light of the findings of the Philadelphia studies reported above, that a part of the 5 grade-score units of range of ability among the twelve-year olds is due to the fact that the pupils at the bottom of the list have usually repeated grades, the inefficiency of which repetitions has dropped their scores lower than they would otherwise have been. We should, therefore, expect the range of abilities in the seventh grade, under conditions approaching promotions on a chronological-age basis, to be less than the range of all twelve-year olds and probably not very different from the range we have at present. Thus, the degree of heterogeneity which would

exist if pupils were promoted on a chronological-age basis could not be appreciably greater than if they were promoted on any other basis which permitted a reasonable rate of progress through the grades.

6. *Teachers feel that the promotion of certain pupils is unwise because these pupils are not ready for the work of the higher grades.*—Our studies have indicated that this unreadiness is largely one of slow learning rate, which will not be improved by repeating a grade section. These studies also indicate that repeating pupils attain a level of proficiency at the end of the term repeated which is little higher than their level of proficiency at the end of their first term in that grade section. Whatever gain is made is attained at a sacrifice of efficiency in terms of achievement per year of instruction.

In summarizing the results of studies in Philadelphia and elsewhere, it seems fair to say that all the evidence points to the conclusion that in general the repetition of the work of grade sections is less productive of educational gains to the pupil than regular progress through the grades.

A UNIFIED TYPE OF ADMINISTRATIVE ORGANIZATION FOR THE SCHOOLS OF CHICAGO

For a number of years the public schools of the city of Chicago have been operated under a type of administrative organization which provides for a triple system of divided responsibility. The law in force at present confers authority on three co-ordinate officers: the superintendent, the business manager, and the school attorney. Each of these officers is responsible directly to the board of education. The superintendent of schools has general control, subject to the approval of the board, of the education department and of the employees therein, but he has no control whatever over the affairs of the business or the law departments. There is now, however, a bill before the Illinois legislature which provides for a unified administrative control of the schools of Chicago. The purpose of the bill is to make the superintendent of schools the sole responsible administrative officer of the public-school system. Matters which heretofore have been under the jurisdiction of the business manager or the school attorney would come under the jurisdiction of the superintendent.

It is to be hoped that the bill will be enacted into law. There can be no doubt that centralization of administrative authority in the hands of the superintendent would result in economy and efficiency of administration. Experience has clearly demonstrated the ineffectiveness of the dual or multiple system of control. No large business

corporation would think of trying to operate under an organization giving responsibility to multiple independent executives—the organization which prevails in many city school systems. Centralized control is the first principle of good management.

THE FALSE ECONOMY OF DRASTIC REDUCTION IN EXPENDITURES FOR TEXTBOOKS

The textbook at present occupies a strategic place in the American school. As our schools are now conducted, it is impossible to maintain anything like efficient instructional service if pupils are not adequately supplied with satisfactory textbooks. Because this fact is obvious, it is surprising that many boards of education are pursuing the shortsighted and mistaken policy of making drastic reductions in expenditures for textbooks. In a recent issue of *California Schools*, Vierling Kersey, superintendent of public instruction of California, makes the following pertinent statement with respect to the importance of textbooks at the present time.

One of the items which is of tremendous importance in the educational program and which represents relatively low expenditures is that of textbooks. The total cost of textbooks is of slight significance in comparison with the total school budget, yet an adequate supply of good textbooks is absolutely essential to the school program. In 1928, in the nation as a whole, the total cost of textbooks constituted but 1.6 per cent of the total educational expenditures. . . .

The value of textbooks cannot be measured by their cost. The educational service of the textbook is second only to that of the teacher. Regardless of the excellence of all other school facilities, it is impossible to maintain a school program without adequate textbooks.

In effecting economies in school costs to meet lowered buying power, school authorities have been too prone to cut appropriations for textbooks without first endeavoring to foresee the consequences of such action. Drastic reductions in textbook budgets have been all too common. Instances where expenditures for textbooks have been slashed over 50 per cent have been reported. Such policy is shortsighted. Not only are such reductions insignificant in terms of total school costs, but the cost of such reductions in terms of lowered efficiency of the schools is far greater than the small saving effected. Real economy consists not merely in cutting costs but in obtaining the maximum returns for each dollar expended. In no other item of school expenditure is more value received than for the dollar spent for textbooks. Drastic reductions in expenditures for books is indeed a futile gesture of economy. The incalculable harm to school children deprived of adequate textbooks will have lasting effects. During this period when other school costs have been reduced by making classes larger and by

assigning heavier duties to teachers, the textbook assumes an increasingly important rôle in the school program. . . .

Insanitary, germ-laden books are a grave menace to the health of pupils. Clean textbooks are just as essential as pure drinking water in the school and pure air in the classroom. There is no economy in jeopardizing the health of pupils with insanitary books. . . .

School administrators and governing boards of school districts should be extremely careful to see that the amounts budgeted for textbooks are adequate to meet local needs. They should guard against any reduction in the supply of textbooks that will result in lowering the efficiency of instruction. To furnish the pupils with an adequate supply of well-selected instructional materials is one of the primary responsibilities which must be faced, especially during this period when other educational services and activities are being curtailed.

A NEW PUBLICATION ON SCHOOL LAW

A small volume bearing the title *The First Yearbook of School Law* has recently been published. This publication seeks to reduce to systematic organization the decisions relating to education rendered by the higher courts of the United States during the year 1932. The data are organized under such topics as "Pupils," "Teachers," "District Boards and Officers," "School Property," "School Taxes," "Creation and Alteration of School Districts," "Universities, Colleges, and Private Schools." The assumption is that the yearbook will be an annual publication. It should serve the very useful purpose of keeping school administrators and students of school law informed with respect to current court decisions.

The yearbook was prepared by M. M. Chambers, Ohio State University, with the assistance of thirteen collaborators. Copies may be secured from Dr. Chambers at the price of one dollar each.

CONFERENCE OF ADMINISTRATIVE OFFICERS OF PUBLIC AND PRIVATE SCHOOLS

During the week of July 17-21 a conference of administrative officers of public and private schools will be held by the Department of Education of the University of Chicago. The conference will have as instructors Ben G. Graham, superintendent of schools, Pittsburgh, Pennsylvania; James B. Edmonson, dean of the School of Education, University of Michigan; William G. Carr, director of Research Division, National Education Association; Lewis W. Smith, superintendent of schools, Berkeley, California; Paul C. Stetson, superintendent

of schools, Indianapolis, Indiana; and members of the Department of Education of the University of Chicago.

The University extends to public-school superintendents and principals a most cordial invitation to attend the conference. Arrangements have been made for those who attend the conference to visit classes and to enjoy other University privileges without the payment of fees. The sessions of the conference will be held in the Club Room of Judson Court, College Residence Halls for Men. Room and board will be provided in Judson Court from Monday morning, July 17, to Friday noon, July 21, for \$17. Reservations may be made through William J. Mather, Bursar of the University of Chicago. Admission to the conference will be without fee. The complete program follows.

Monday, July 17

PUPIL GUIDANCE

"Interpretation of Guidance in Secondary Schools," Leonard V. Koos, Professor of Secondary Education, University of Chicago

"Guidance Programs in Secondary Schools," William C. Reavis, Professor of Education, University of Chicago

"Guidance from the Vantage Point of the Junior College," Aaron J. Brumbaugh, Assistant Professor of Education; Dean of Students in the College, University of Chicago

"Education at the Century of Progress," Don C. Rogers, Director of Research and Building Survey, Chicago Public Schools

Organization of round-table conferences for the afternoon sessions. Separate conferences will be conducted for superintendents and principals.

Tuesday, July 18

RELATIONS OF THE SCHOOLS TO THE PUBLIC

"Propaganda and the Public Schools," Charles H. Judd, Dean of the School of Education, University of Chicago

"Informing the Public about the Schools," James B. Edmonson, Dean of the School of Education, University of Michigan

"Court Decisions Pertaining to Boards of Education in Their Dealings with the Public," Newton Edwards, Professor of the History of Education, University of Chicago

Wednesday, July 19

THE SCIENTIFIC STUDY OF CHILDREN

"The Organization and Work of Child Development in the University of Chicago," Frank N. Freeman, Professor of Educational Psychology, University of Chicago

"The Study of Problem Pupils," Mandel Sherman, Associate Professor of Educational Psychology, University of Chicago

"Child Study and Guidance in a City School System," Lewis W. Smith, Superintendent of Schools, Berkeley, California

Thursday, July 20

INSTRUCTION IN SPECIAL FIELDS

"Vocational Subjects in Secondary Schools," Ben G. Graham, Superintendent of Schools, Pittsburgh, Pennsylvania

"English in Secondary Schools," Rollo L. Lyman, Professor of the Teaching of English, University of Chicago

"Arithmetic in the Elementary School," Paul C. Stetson, Superintendent of Schools, Indianapolis, Indiana

Thursday Evening, July 20

BANQUET

Toastmaster, William J. Bogan, Superintendent of Schools, Chicago, Illinois

Friday, July 21

EFFECTING ECONOMIES THROUGH SCIENTIFIC ADMINISTRATION

"Curriculum Reorganization in Secondary Schools," Arthur K. Loomis, Associate Professor of Education, Principal of the University High School, University of Chicago

"Current Problems in Business Administration," Nelson B. Henry, Associate Professor of Education, University of Chicago

"Research as an Essential Service in Administration," William G. Carr, Director of Research Division, National Education Association

NEW PROBLEMS IN CITIZENSHIP TRAINING¹

CHARLES H. JUDD
University of Chicago

This paper is not a discussion of the curriculum. Lest my omission of reference to the curriculum be misinterpreted, I wish to make it clear at the outset that I entertain the belief that one of the most important and most progressive changes being made in American education is the reorganization and expansion of the program of instruction. The reason why I do not address myself at this time to a treatment of the important problems of curriculum reconstruction is that I am convinced that the whole administrative framework into which the curriculum fits must undergo a thorough revision if a new program of training for citizenship is to be devised and to become truly effective. I am, therefore, taking advantage of this opportunity to present to a group of administrators some considerations which I believe should be very much in their minds as they supervise the organization of citizenship training in the school systems over which they preside.

The schools of this country occupy a curious relation to other public institutions. They perform so significant a function for society as a whole and one which is of such supreme importance to all individuals in the state and to the life of the state itself that the law recognizes the schools as in an important sense detached from other civil jurisdictions.

The courts have frequently had occasion to make pronouncements on the relation of school districts to municipalities and on the relation of boards of education to mayors and city councils. The judgments uniformly rendered in all cases hold that the school district is separate and distinct from the municipality. The school district is a creation of the state, deriving its prerogatives from the

¹ Paper prepared for presentation before a group meeting of the Department of Superintendence of the National Education Association, February 23, 1933.

state and performing a function which is a primary duty of the sovereign state, not a function of the local government.

Not only does the law detach the schools from local civil jurisdictions, but it goes further and confers on school systems a high degree of autonomy with respect to the state government itself. This fact is expressed in the statement that American schools are largely under local control.

There are certain slogans often employed in the newspapers and on the public platform which show that the popular mind is vaguely aware of the legal status of schools as distinct units of state government. Such slogans as "Keep the schools out of politics" are expressions of a pious hope that all waste in expenditures and all tendencies toward patronage may be avoided in the conduct of this one public institution. Another declaration made by enthusiasts is: "The schools must not be made the football of spoils politics."

I am sure that everyone who deals with schools knows that some of the statements about schools and politics are accepted by readers and listeners as polite euphemisms. School superintendents now and then muster their courage and tell city councilmen to get out of their offices. Now and then one hears of a school superintendent who refuses to respond to the summons of a mayor to come to the city hall. In the main, however, it is customary, in the interests of diplomacy, for superintendents to look on public officials as patriotic and interested citizens. Quite uniformly, communications flow freely between the city hall and the board of education and its executive officers.

The legal status of separation and the practical fact of illicit commerce have been so thoroughly impressed on teachers and citizens that certain disastrous results have appeared in our teaching of civics. The very word "politics" is traveling on the downhill road so fast that it is in danger of becoming a synonym for "corruption." I have sometimes wondered whether the contemptuous tone in which teachers speak of all politicians is not the cause of the selection which keeps high-minded boys out of public careers and opens the way for new generations of grafters to control civil governments.

I am never disposed to advocate imitation in this country of the social practices of the older civilizations. I have observed with inter-

est, however, the attitude of many schools in England, Germany, and France toward governmental positions. There are many schools in these countries that make a specialty of preparing boys for the rigorous competitive examinations which lead into public service. I have often thought that this attitude of the schools is no small part of the explanation of the superior respect in which Europeans hold public officials.

The separation of schools from the other branches of government has been working in recent strenuous years to the disadvantage of many schools. Taxpayers' associations and taxpayers' committees have been especially vicious in their attacks on schools. Public officials have not infrequently ruled, as did the attorney-general in the state of Alabama, that education is not an essential governmental activity. Many of the county boards of education in Indiana, confronted by the legislative requirement for retrenchment to a degree that tends to put an end to governmental services, center their major attack on schools.

The Boston papers recently carried an advertisement an extract from which is as follows:

EDUCATORS, PARENTS, TEACHERS:

Do you want the politicians to run your schools or do you want the traditional policy of Massachusetts maintained, which has always insisted on a separation of education from other municipal functions?

Today, Wednesday, at 10:30 A.M., there will be a hearing, in Room 433, on Senate Bill 251. This bill will take from school committees control over appropriations and turn it over to mayors and city councils.

The Massachusetts Tax Association, which filed this bill, is an organization made up of bankers, and insurance, railroad, gas, and electric light and power companies, and the move is part of the program to cut services and salaries in order to avoid paying taxes on their tax-exempt securities. They realize that real-estate owners must get relief, and in order to escape taxation themselves, they prefer to lower the standard of American living and cut services the people now enjoy and wish continued. This Massachusetts Tax Association is financed principally by the bankers, who have been able to force weak-kneed and servile mayors to cut salaries on threats that they would refuse to lend money for municipal purposes. They have not been able to stampede school committees, and, therefore, they have decided to force Senate Bill 251 through the Legislature.

When I read that advertisement, I thought of the reports of Horace Mann, who nearly a hundred years ago was exhorting Massachusetts to organize a public school system in order that a

trained citizenry might insure the development and perpetuation of a sound democratic state. Horace Mann repeatedly emphasized what he believed to be the only justification for a public school system, namely, the principle that intelligence makes for co-operation and justice in civilized life.

As one contemplates the situation with regard to education which now exists in the United States, one must conclude that there is something fundamentally wrong. My appeal to the administrative heads of American school systems is to undertake a vigorous campaign for the correction of the situation. I am not suggesting that superintendents call their teachers together and issue advice or orders that pupils be instructed in new and better views regarding politics and politicians. Before the curriculum is modified, there must be such a change in attitude on both sides that schools will command the respect of public officials and public officials will be respected by schools.

Let me be quite concrete. It is very generally recognized that the taxing systems in force in American communities are antiquated and incapable of supporting legitimate governmental services. So inadequate are the taxing systems that they cannot carry the burden of *expanding school programs*. What is to be done under these conditions? The school people of Ohio have recently faced the situation, organized a survey of the resources of the state, and assumed leadership in the reconstruction of the fiscal policy of the whole commonwealth. They have thus performed a public service of the first magnitude. In an important sense, they have gone into politics. There is certainly nothing unworthy in the move which they have made. They have exercised the right and duty of every citizen in a democratic state to contribute intelligence to the conduct of public affairs.

Much too frequently school people lay themselves open to the charge that they take a hand in public administration only when their own private interests are involved. I am not arguing against protection of personal interests; I am saying that it is far better to secure uniform justice throughout all governmental services by constant participation than to be spasmodically active in seeking justice when selfish interests are involved. May I quote a statement which I recently read in a letter from one of the leading political scientists of the United States. He said:

I happen to be a member of a board of education and have just succeeded in working through a consistent salary policy both for the schools and for the municipal employees. It took a whole year to work this out, and it was accomplished only by stimulating unofficial citizen agencies to bring pressure to bear on the municipal officials. Not long ago the schools had to put on another bus to carry children past a bad corner the municipal officials would not police!

While our board of education, though elected, is in some particulars superior to the municipal council, I suspect that, if all of our eggs were in one basket, the demand for quality and non-partisanship would permeate in a greater degree the whole situation.

The fact is, as we all know, that, instead of proper co-ordination, there is very often the most violent opposition between school boards and other branches of the government. There is competition for funds; there are quarrels about jurisdiction; there are constant recriminations. I do not have a final theory to propose as to the best procedure for effecting co-ordination of school districts and municipalities. I am impressed by the possibility of getting the public to understand that the conduct of a school system requires the services of an expert administrator. I am, at the same time, impressed by the fact that many boards of education as now constituted obstruct the proper administration of schools. I am coming to believe that the larger share of present-day inco-ordination between school districts and municipalities results from the incompetency of boards of education. If communities would abolish boards of education, put experts in charge of their schools, and hold these experts accountable for what happens, we should, I feel sure, have better schools and better relations between school officers and municipal authorities than we now have. In making this general suggestion, I am not unmindful of the fact that some boards of education have adopted the wise course of leaving problems requiring expert solution to experts and have undertaken with success to inform the public of the happenings in the schools. It is, unfortunately, far from usual that a board of education pursues such wise policies.

Whether this kind of adjustment appeals to school administrators or not, my purpose is served through the presentation of the case as an example of a new type of politics. Whether or not we dispense with boards of education—and I hope we shall—we have to devise some plan of reconciling the elements of our political organization.

The legal status of the schools as agencies of the state need not be thought of as changed if boards of education are abolished. The way would merely be opened for intelligent consideration by experts of the public policies which should, and in the long run must, harmonize.

I believe unqualifiedly that school men and school women should get into politics and get in effectively. Up to the present time, the schools have been out of politics only in theory. The trouble is that they have occupied so minor a position that they have been full of envy and full of disesteem of those who operate other branches of the government. Municipal authorities in many localities have been equally contemptuous of the schools and disposed to withdraw support on the slightest provocation.

The net result of this situation, as I pointed out earlier, is to set in motion a vicious circle. Pupils in the schools are influenced by innuendo and sometimes by explicit instruction to think ill of government. Government, as a result, fails to secure the services of the brightest and best products of the schools. Government, because of its failure to enlist the most promising products of the schools, is often inefficient and sometimes corrupt. The adverse judgment of teachers is thus justified, and the vicious circle is completed.

My contention is that no revision of the materials of instruction will cure the situation unless revision of instruction is accompanied by a far-reaching change in the administrative setting in which instruction takes place. A homely phrase which may, perhaps, summarize what I have been saying is: Good citizenship must begin at home. Until the schools of this country are in proper relation to their own surroundings, their preachments to pupils will be unsound and ineffectual.

From the discussion of the outside relations of the schools, I turn to the consideration of a series of topics which relate to good citizenship within the schools. I am going to ask you to listen for a few minutes to a psychological discussion of the nature of human behavior which is, I believe, fundamental and essential to the understanding of what constitutes good citizenship.

A good individual citizen, like a good school system, is one properly adjusted to the environment. It is a commonplace in ethics and

social psychology that there is an initial conflict between the individual's desires and those of the social group. Take the problem of property as an example. The untrained individual naturally seeks to satisfy his desires for every object which attracts his attention. He has no native respect for the property rights of others. Training consists in the cultivation of a new attitude in the individual which distinguishes what belongs to himself from that which belongs to others. No individual is a good citizen in such a society as ours who does not distinguish between what is his and what belongs to others.

The process of cultivating a proper attitude toward the things which one can have and those which one cannot have often sets up within the individual emotional conflicts of the most serious type. When one of these emotional conflicts leads to stealing, society with a stern hand disciplines the transgressing individual. It is often assumed that society has achieved its purpose when its disciplinary measures are so severe that the individual is thereafter restrained from further offenses against the social code. What modern psychology is pointing out is that there are often serious consequences within the individual even when external adjustments appear to have been achieved. The internal conflict of desire may literally disrupt the personality of the individual.

I have no disposition to overstate the case, but statistics make it clear that there are a great many cases of disrupted personalities in the modern civilized world. Two studies made in the states of New York and Massachusetts show that one out of every twenty young persons of high-school age is destined to become a charge on society in his later life by commitment to an asylum for the insane. Insanity has many causes, but, among these causes, disruption of personality through internal emotional conflicts is the most important.

Psychology points out other causes of emotional conflicts besides the thwarted desire for property and the reaction to restraining punishment. Fear of various kinds occasioned by inability to master situations in life is one of the prolific sources of internal conflicts. Some pupils are afraid of incurring ridicule; some are afraid of the future. Another cause of conflicts is envy of companions who are superior in achievement.

There is no special point in attempting a complete psychological

catalogue of the causes of emotional conflicts. The purpose of this discussion is to call attention to the fact that good citizenship is not merely a matter of knowledge, it is very largely a matter of emotional equilibrium.

Up to this point, I have used examples of emotional conflicts which are comparatively simple and may be thought of as problems with which the individual teacher should deal. The school administrator is in a position, if he is intelligent, to apply the psychological principles which have been illustrated and to set up proper conditions in the community of individuals under his supervision. Teachers, like pupils, are full of fears and ambitions. School administration is successful only when it recognizes teachers as complex beings with possibilities of internal and external adjustments and maladjustments.

I am sure that everyone who has observed schools realizes that there is a permeating quality which characterizes every school building and every school system. This general quality is explained in every case by the temper of the administration. I venture the statement that a competent inspector can tell after the first half-hour in a school building what manner of principal is in charge of the school. In like fashion, it is possible to discover through the temper of the teaching staff what kind of central administration is in charge of a school system.

The facts which I have been reviewing about emotional conflicts and good school administration—or its opposite—have a direct bearing on citizenship training. It is utterly futile to superimpose a trivial course in civics on a disorderly school. It is impossible to create an effective school city or school state in a school where the teachers and the principal are out of harmony.

I once induced a student who was interested in the general problem of pupil self-government to start a thesis which was to deal with schools where pupil self-government had failed or been abandoned. I called his attention to the fact that most theses on pupil self-government deal with so-called "success" in this type of undertaking. I pointed out, further, that there must be something inherently difficult in maintaining pupil self-government for any length of time, since formal organization of this type of control does

not secure universal acceptance. The student came back after a few efforts to get some facts and said the thesis was impossible because no one could give him the facts. Where pupil self-government had been abandoned, the reason seemed to be that some kind of spirit of social co-operation was absent, and the absence of anything is very hard to explain.

I am the more convinced of the importance of the principles which I am attempting to expound because, as we all know, good citizenship in schools is not the product of any particular external form of organization. There are schools which illustrate good citizenship and make it concrete through formal organization. There are schools where organization of a formal kind is largely absent but where a spirit of adjustment pervades the institution. There are schools where the lack of all good practices and forms serves to keep the pupil body in a state of inco-ordination with the curriculum, with the teachers, and with the supervisory staff.

I must not be understood in what I have said as lacking in appreciation of the importance of including in the school program explicit teaching of citizenship. Certainly one of the best means of avoiding internal conflicts in individual experience is to cultivate a broad view of the world. Knowledge is a cure for many conflicts. I am always eager to promote the cultivation of those ideas in pupils' minds that will prepare them to eliminate possible inco-ordinations in their social relations which may result from ignorance and from the prejudices arising from ignorance. When one thinks of the problems of citizenship training, one should certainly think of the curriculum, but one should also think, I believe, of the subtler influences which contribute to the organization of society.

From this point on, I am going to venture to become quite personal. Assuming that I am discussing training for citizenship with a group of administrators who must help communities of citizens to understand their schools and must guide communities of pupils and teachers, who should work in harmony in preparing for a future which will require poise and intelligence, I raise the question of the citizenship of administrators themselves. I know of no problem which is more important for the schools than the problem of creating and maintaining a high level of effective citizenship among school

administrators. In order to make my point emphatic and concrete, let me indulge in three explicit criticisms of school administrators as I know them. I shall undoubtedly exaggerate in the statements which I make, and I am quite prepared to qualify everything I say by admitting that there are numerous exceptions to the examples which I set up.

My first criticism of school administrators is that they are too narrow in their training. I am convinced that no one can really be an effective leader of a school system unless he has some training in the methods of inquiry and some acquaintance with the findings of the social sciences, especially political science, economics, and sociology. The trouble with American education is that the schools have too long been institutions apart, not only in the legal sense, but in their sympathies and range of thought. Teachers' colleges have long lived outside the circle of the universities. While the universities have been developing scientific facts about commerce and population and industry and government, teachers' colleges have concentrated on individual psychology, on methods of teaching, and on school law. The blame is by no means all on the side of teachers' colleges and school administrators. If I were speaking to my colleagues in political science, economics, and sociology, I should feel justified in berating them for their gross neglect of educational problems. Sometimes one can induce an economist to discuss intelligently the problems of school finance but not often and not for long.

I am not so much interested, however, in distributing blame as I am in urging that there be a change. If the educational institutions which train school administrators do not insist that their graduates think in terms of the social sciences, then school administrators will have to remedy the situation by personal study. It is quite impossible for the schools of this country to achieve what they should if the administrators—the leaders of the institutions—are microscopic in their views.

A second criticism which I am compelled by observation to make is that school administrators have no adequate contacts with one another. The profession of physicians and the profession of lawyers are held together by technical literatures to which members of the professions contribute. Every live member of these professions is

constantly stimulated by contact with what his colleagues are doing. The most appalling fact about school administrators which I know is that they are professionally isolated. A few administrators contribute to the literature of the profession, but for the most part there is a great silence on the urgent educational issues of the day.

I have often wondered at the fact that the leading organizers in the field of education seem to be impotent in communicating with one another. They do not even come to one another's help in emergencies. I remember the incident which occurred in the city in which I live when a superintendent was attacked by a demagogue whose corrupt motives were so obvious that the whole world recognized the injustice of what was happening. Did a single colleague of that superintendent attempt to bring the force of the professional group to his defense? The answer is, unfortunately, in the negative.

My third criticism of school administrators is that they are far less prepared than they should be to apply scientific methods of evaluation to the achievements of their school systems. I hear superintendents say that they have no time and no surplus energy to devote to scientific studies. I hear them say that their boards of education will not let them spend money on anything except routine. I cannot escape the conviction that the profession is less concerned than it should be with critical evaluation of school results, for it is my experience that, where the leaders are really eager for anything and intelligent in its use, they find a way of securing it. Industry has recognized the necessity of supporting research. Business has installed expert accounting.

The criticisms which I have been voicing were formulated for the purpose of bringing to your attention what I deem to be one of the most important new problems in American life. A few decades ago, when life was comparatively simple, a school superintendent could perform fairly useful service to society if he were an ordinary well-meaning, honest citizen even though he had very little technical preparation for his duties. Today American education is in need of highly trained, expert leadership. The problems of school administration cannot be solved without the exercise of the highest intelligence and the highest administrative skill.

In January of this year the President of the United States called

a conference of citizens to discuss the crisis in education. That conference found itself plunged at once into the consideration of grave social and economic problems. It was both impressive and discouraging to hear some of the economic authorities of the country who were present and representatives of manufacturing, agriculture, and labor attempt to cope with the problem of protecting and keeping efficient the most fundamental of American social institutions—the schools. I am frank to say that, if the training of the young people of this country in citizenship, or anything else, depends on the timid and uninformed type of judgment which was again and again exhibited in that conference, then the time has come for the warning to be sounded that this democracy is in danger.

Numerous bills providing for economic planning and social planning have been introduced during this session of Congress. A conspicuous fact about these bills has been the general lack of reference to the institutions which are organized as the basal institutions of our civilization. The preparation of children for citizenship is put in a secondary place in these times because men are frantically concerned with economic difficulties. It seems to be overlooked that whole states in the United States will lapse into illiteracy if the leaders in society continue to be so absorbed in economic difficulties that they view with composure, almost with complacency, the curtailment of public education.

I do not think I exaggerate when I say that the most urgent new problem of citizenship training in this country at this time is the problem of leading the nation to understand that the schools must be preserved. I am interested in the crucial problems of curriculum reconstruction. I am even willing to devote time to some of the details of teaching. I am one of those who believe that the distinction between oral reading and silent reading is worthy of painstaking investigation, but at the present moment I am far more concerned to discuss the larger aspects of citizenship.

There are among us in these days men and women who do not believe in high schools for all classes of young people. There are in this country persons of influence who were silent while the country was prosperous and enthusiastic about promoting favorable conditions of life for all classes but are now articulate in their protests

against too liberal provision for general education. The issue is not an issue of methods and content of teaching; it is a large, comprehensive issue of the direction in which American life is to tend. I read some weeks ago, as perhaps you did, an article by one of my fellow-Chicagoans which bore the title "The Taxpayer Takes Charge." That article said clearly that big business is now in charge of government and is considering how it will operate in the future to secure a type of government satisfactory to itself. The article said that city officials are cheerfully accepting the dictates of the taxpayers who have taken control. I would that we might as a nation arrive at an intelligent decision as to who is to control us. I, for one, am willing to be governed by intelligence. I am willing to be governed by men who will promise children opportunity. I am willing to be governed by men who have regard for social trends and for large social interests. I am willing to be governed by representative citizens. The title "taxpayers" does not seem to me to imply the particular type of virtues which the American people have had in mind as they have developed their social institutions. I recall that history records the opposition of taxpayers to publicly supported schools in the middle of the past century. I remember that the record shows that there were riots in those days about school taxes. I have seen in the histories the statement that legislatures, obeying the behest of taxpayers, rescinded their earlier action imposing taxes for the education of children but were ultimately obliged in the interest of the state to re-enact the taxes which they had canceled. Taxpayers are, in the long run, less likely to control government in this country, I feel sure, than parents. Taxes are burdensome, but they are by no means as disastrous as crime and social maladjustment. I hope that the control of the big taxpayers will be of short duration. I hope that the big taxpayers will be willing to join with the intelligent citizens of the country in perfecting a type of responsible representative government which does not readily acquiesce in control by any irresponsible selfish group. Whatever the big taxpayers have in mind, the duty of school men and women is clear. It is our duty to society to set our house in order with a view to supplying coming generations with conditions of physical and mental growth which will insure intelligent, well-balanced personalities as citizens of a democracy.

A QUANTITATIVE STUDY OF AN ACTIVITY PROGRAM

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It is the opinion of the writer that no feature of the educational program is so much in need of a critical evaluation as that which goes under the heading of the "activity program," together with the larger educational concept "progressive education." Much experimentation, in both public and private schools, has occurred in the development of the activity program. Schools and the public have been markedly influenced by the enthusiastic proponents of this type of classroom procedure. American education in this respect is undoubtedly going through the same process of overemphasis which has occurred many times before in our history, and "the activity" has been magnified into a cult. Fortunately, educational leaders, both in the training institutions and in the field, are disposed to take a scientific attitude toward every innovation that affects the practice of the schools. It is the belief of many that the time has come for a critical evaluation of the trends of progressive education and, in particular, of the activity program.

No factor in the educational program could be less subject to quantitative measurement than the procedures under discussion. A local school system is, however, lacking in the discharge of its duty if it does not make a check of the actual educational service rendered by the activity program, especially because certain essential educational procedures are likely to be neglected unless sanity governs the policy of the schools in this respect as in all other matters.

An evaluation of this program has been made in the Berkeley public schools by means of a questionnaire study. One of the important features of the questionnaire, included for the purpose of guiding the teacher in making responses, was the following careful definition of an activity prepared by the supervisor of elementary education, who is in responsible charge of classroom procedures.

An activity is an enterprise *organized* by a pupil or a group of pupils, under the leadership of the teacher, to further *classroom study*. Such an activity requires purposing, planning, evaluating, deciding, selecting, eliminating, organizing, constructing, or creating. It implies seeing, hearing, expressing, doing, and appreciating, and affords opportunity for the child to acquire information, weigh values, make decisions, develop attitudes, and make behavior responses in connection with real situations.

The questionnaire carried the following items:

Name of activity.

Origin of activity. In what subject did the activity originate, or how?

List other subjects involved, if any.

List any smaller activities which grew out of the original one.

Length of time covered from the time of initiating activity until its consummation.

Was it initiated by a pupil, a group of pupils, the class as a whole, or by the teacher?

Was it carried out by an individual, a group, or the class as a whole?

What new activities or interests, if any, developed from the original activity?

This questionnaire was given to all the elementary-school teachers in the spring semester of the school year 1930-31 and the autumn semester of 1931-32. The list of activities reported reached the impressive totals of 509 in the spring and 461 in the autumn. The two studies produced essentially the same results. The kinds of activities found in the schools represent a rather complete cross-section of all human interests. The list itself challenges interest. Mention of a few of the activities reported will give a concrete idea of the list:

A Christmas Toyshop	Famous Buildings of Europe
A Filipino Village	Founding of the California Missions
A Japanese Village	Horse Show
An Early California Home	Indian Museum
An Orchard Farm	Insect Friends
A Peace Parade	Ladder of Ages
Arabian Bazaar	Lindbergh Book
A Stock Ranch [Sand table]	Migration of Birds
Audubon Club	Native Trees of California
A Year in Mexico	Paper Store
Business Street	Pilgrim Village
California as a Fruit Basket	Puppet Show
California Trees	Taking Columbus for an Aeroplane Tour over the Islands and Lands He Discovered
Date Chart of American History	The Hoover Dam
Dutch Village	
England, Ireland, Scotland, France	

The activities reported in the autumn of the school year 1931-32 have been selected for discussion in this article.

It is a well-accepted principle that an activity in a classroom must be originated in a proper way. The question, "In what subject did the activity originate?" brought out some interesting facts. The answers to this question were classified and are given in Table I. Comment on this tabulation is reserved until certain other tabulations are presented.

TABLE I
ORIGIN OF 461 CLASSROOM ACTIVITIES

Subject of Origin	Number of Activities	Subject of Origin	Number of Activities
Social studies	210	Desire of child or children . .	6
Reading	53	Arithmetic	6
Nature-study	47	Miscellaneous	6
Language	30	Manual training	5
Class or group discussion . .	16	Season of the year	4
Music	14	Free play	3
Story hour	14	Penmanship	2
Previous activity	13	Community life	1
Art	12	Excursion	1
Hygiene and physical education	11		
Interest of children	7	Total	461

Quite as important as the origin of the activity are the other subjects which are involved in its execution. All are agreed that the activity should call into use as many as possible of the subjects in the school. The questionnaire results provided valuable data on this point, but it will not be possible to present the information in detail. The other subjects involved in the activities engaged in are shown in Table II.

These two tabulations were brought together to show all the school subjects involved in the activities. This combination is shown in Table III.

These tabulations indicate that the social studies are the most fertile sources for the initiation of activities. However, once an activity is selected, art is more frequently concerned in its development than any other subject. Table III indicates clearly that art, language, reading, and the social studies are the most important of all the subjects involved in an activity. None of the other subjects is

involved in as many as one-half the activities. Such important formal subjects as penmanship, spelling, and arithmetic belong in the latter classification. Particular attention is directed to the fact that arithmetic is involved in less than one-fourth of the activities.

TABLE II

SUBJECTS OTHER THAN SUBJECTS OF ORIGIN INVOLVED IN THE EXECUTION OF 461 CLASSROOM ACTIVITIES AND NUMBER OF ACTIVITIES IN WHICH EACH SUBJECT WAS INVOLVED

Subject	Number of Activities	Subject	Number of Activities
Art	339	Nature-study	64
Language	292	Social studies	54
Reading	247	Physical education	39
Spelling	165	Home economics	24
Penmanship	163	Literature	23
Arithmetic	105	Hygiene	10
Manual training	103	Phonics	5
Music	103		

TABLE III

ALL SCHOOL SUBJECTS INVOLVED IN THE EXECUTION OF 461 CLASSROOM ACTIVITIES AND NUMBER OF ACTIVITIES IN WHICH EACH SUBJECT WAS INVOLVED

Subject	Number of Activities	Subject	Number of Activities
Art	351	Nature-study	111
Language	322	Manual training	108
Reading	295	Physical education	40
Social studies	264	Home economics	24
Penmanship	165	Literature	23
Spelling	165	Hygiene	20
Music	117	Phonics	5
Arithmetic	111		

A study of these tables shows with great clearness that the activities cannot be depended on to provide complete opportunity for training in all the subjects of study in the elementary schools. Furthermore, it is shown that the importance of the various subjects in the execution of activities varies widely. The teacher, therefore,

must not depend on this device too completely in securing mastery of subject matter. However great the teacher's enthusiasm for activities, he must be alert to the necessity of using other teaching procedures in order to give all the elements of the curriculum their due portions of attention and emphasis.

One of the important problems having to do with the setting-up of an activity is whether it shall be of such magnitude as to extend throughout the semester or whether it shall be of short duration. Sometimes the teacher who reports an activity of short duration does not have a complete and proper understanding of what is involved

TABLE IV
DISTRIBUTION OF 461 CLASSROOM ACTIVITIES ACCORDING TO
AMOUNT OF TIME CONSUMED IN THEIR EXECUTION

Number of Weeks	Number of Activities	Number of Weeks	Number of Activities
Less than 1	8	12	31
1	9	13	3
2	37	14	4
3	47	15	3
4	63	16	6
5	15	17	3
6	49	18	2
7	6	Complete semester . . .	98
8	54	Not stated	4
9	2		
10	15	Total	461
11	2		

in an activity program, and that fact itself raises questions. It is not necessarily true, however, that an activity of relatively short duration fails to accord with the true conception of the activity program. The amounts of time given to the activities in this study are shown in Table IV.

Since initiative, resourcefulness, and self-activity are central factors in the activity program, it is important to know whether a group of pupils or the class as a whole was responsible for initiating an activity or whether it was initiated by the teacher. A tabulation of the data on this point indicates that in the largest number of cases, 160, the teacher initiated the activity; that groups in a class

were responsible in 88 cases; that the teacher and class together were responsible for initiating the activity in 75 cases; that individual pupils initiated the activity in 65 cases; and that the class as a whole was responsible for the initiating of the activity in 47 cases, a group and the teacher in 16 cases, and miscellaneous persons or groups in 8 cases. In two cases this question was not answered. These data indicate that a large part of the teaching staff has a clear understanding of the activity program but that there is still room for further clarification of the fundamental principles of this type of classroom procedure.

It is also important to know whether an activity was carried through by an individual, a group, or the class as a whole. There is more uniformity of practice in this aspect, as would be expected. In 6 cases the activity reported was carried through by individual pupils; the class carried out the activity in 406 cases; and class groups were responsible for the execution of the activity in 49 cases.

Since educational theorists believe that new activities should grow out of other activities, we sought to learn to what extent such development had occurred. In a few cases very interesting activities had so originated, but these were relatively few throughout the system as a whole. These activities were particularly interesting, as the following list indicates.

A large boat made of lumber	Primitive orchestra
A city street	Arithmetic workbooks
A business street	Transportation
Library reading club	Toyshop

Information concerning the teachers' educational philosophy with reference to the whole program was desired. It was decided, however, not to undertake to secure this information by questionnaire because it was felt that information so secured would be vague and the preparation of such information burdensome to the teacher. However, data on the subject were available from the following contributions describing activities made by teachers and supervisors of the Berkeley schools to educational publications:

1. Azalea Almy, "The Western Gardeners' Corporation," *Fifth Yearbook of the Department of Classroom Teachers*, pp. 73-77. Washington: Department of Classroom Teachers of the National Education Association, 1930.

2. Edith C. Bailey, "The History of Music," *Fifth Yearbook of the Department of Classroom Teachers*, pp. 208-12. Washington: Department of Classroom Teachers of the National Education Association, 1930.
3. Ruby Minor, "Experience as a Basis for Growth," *Childhood Education*, VI (February, 1930), 269-71.
4. Ruby Minor, "A Study of Arabia," *Normal Instructor and Primary Plans*, XXXIX (December, 1929), 31-33.
5. Elizabeth Hermann Craig, "Books of Long Ago," *Fifth Yearbook of the Department of Classroom Teachers*, pp. 123-27. Washington: Department of Classroom Teachers of the National Education Association, 1930.
6. Ethel Hofmann, "A World's Fair," *Fifth Yearbook of the Department of Classroom Teachers*, pp. 151-53. Washington: Department of Classroom Teachers of the National Education Association, 1930.
7. Ruby Minor, "A Natural Learning Activity in a Special Class," *Educational Method*, VIII (January, 1929), 212-13.
8. Libbie Macauley, "A Farm Activity," *Fifth Yearbook of the Department of Classroom Teachers*, pp. 31-33. Washington: Department of Classroom Teachers of the National Education Association, 1930.
9. Ruby Minor, "New World Geography," *American Childhood*, XVI (February, 1931), 3-6.
10. Ruby Minor, "Caravan Trails in Beginning Geography," *American Childhood*, XVII (September, 1931), 9-11.
11. Lois Rose Young, "Hobby Classes," *Fifth Yearbook of the Department of Classroom Teachers*, pp. 82-84. Washington: Department of Classroom Teachers of the National Education Association, 1930.

These articles were examined for statements concerning the following aspects of the activity program: (1) origin of the activity, (2) objectives, (3) procedure, (4) other subjects involved, and (5) outcomes. This examination made it clear that the writers of these articles are completely conscious of the desirability of having all activities grow out of fundamental interests of the children. The following are examples of the origin of the many varied activities described in the published articles: (1) "After a discussion of weeds and why we must not have them in our gardens while desirable plants are growing, a request came from one of the children that we plant a garden at school." (2) Children of the high-sixth grade suggested that as their final "goodbye" they do something which would include every subject and then invite parents and other classes to see it. (3) Watching the fleet arrive in San Francisco Bay caused a class to decide in conference to build a battleship. (4) A study of the

Winston Simplified Dictionary led to an activity in the use of the telephone directory. (5) Interest in two baby ducks which the class was raising was the origin of a farm activity. (6) A trip of one of the children through the Panama Canal resulted in the initiation of an activity called "A Trip around the World." (7) A boy played his harmonica for the class. Many children expressed a wish to learn the technique of harmonica-playing, and a harmonica club was formed, made up at first of girls.

Under the head of procedure the authors mentioned show that the greatest variety of self-activity on the part of children was fostered. I shall not undertake, however, to summarize the discussions of this subject.

With respect to the other subjects involved, it is clear that the authors see the importance of the correlation of all subjects in a well-integrated activity. In this connection it may be noted that efficiency in the traditional subjects of study is emphasized as being an important outcome, but other human values are also emphasized. It is also clear that these authors consider the development of personality the most important outcome of these activities. Some quotations from the articles previously referred to will illustrate this point:

Many [children] now have gardens at home. It is hoped that these gardens will keep them interested . . . in something that is wholesome while passing through the adolescent stage. If it teaches them respect for property through their own experiences, if it makes them considerate of others, if it gives them love for the little things in life, something has been contributed to their character-training as well as to the other subjects involved.

A personal and intimate feeling for books of all kinds, not only an intellectual appreciation but an interest in the art side of the making of a book was acquired by all.

SUMMARY

Certain practical conclusions grow out of this study and are given by way of summary. The study is too limited in scope and in method to be finally conclusive. However, practical decisions must be reached in the management of the schools, and it is therefore our belief that our local school system, lacking more extended data, is justified in using these data as the basis for such decisions.

It is desirable to utilize all the enthusiasm of teachers and pupils for educational growth which can be fostered by the activity procedure in the classroom.

This study provides a note of caution. Certain studies are most concerned in the origin and the execution of the activities, namely, art, social studies, reading, nature-study, and language. Certain other studies important in themselves, such as spelling, penmanship, and arithmetic, have small place in the origin, execution, and development of activities. There is no indication that the subjects of study are utilized according to their relative values. The conclusion is obvious that activities alone cannot be depended on for developing a well-balanced educational program in the elementary school.

The educational philosophy of teachers has an important bearing on the whole matter of the activity program, and, in the evaluation of such a program in any school system, a clear picture of the program cannot be secured unless a method is found of ascertaining the educational philosophy of teachers in this regard.

The activity program in its present state in the schools demands critical evaluation, and careful appraisal should keep pace with any further promotion or extension of the program.

A STUDY OF VARIATION IN MAP SYMBOLS

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INTRODUCTION

On numerous occasions the writer has had reason to observe children using physical maps, individually and in groups. Two important reactions were noted. First, when children were shown physical or physical-political maps, they generally recognized the type of map without hesitation. Second, when it was necessary to use such maps, the children assumed an air of trepidation and strangeness. This situation seemed odd. Children recognized the tool as such, *but in practice the same tool seemed to be unfamiliar*. This anomalous situation caused the writer to ponder on the probable reasons. Could it be that the teaching processes were at fault? Yet the same irregularity appeared with children in classes of teachers who were highly recommended as well as with children in classes of less capable teachers. Could it be that we have taken too much for granted, that the proverb, "Familiarity breeds contempt," is applicable to us as adults and teachers? The writer set himself the task of minutely examining the physical and physical-political maps found in some commonly used textbooks. The results at once corroborated the known fact that there is little agreement as to the symbols that are employed on these maps, but he was astounded to note *the degree* of variation.

The significance of this finding is better appreciated if we consider what such variation in symbols would mean in the study of another subject. Teachers of arithmetic would throw up their hands in despair if one textbook used the symbol \times to represent the process of multiplying and another book used the same symbol to represent the process of adding. The reader's imagination will be little taxed, indeed, to picture the general chaos that would result if there were no uniformity in the meaning of the symbols used in arithmetic or,

for that matter, in any of the subjects of the elementary-school curriculum. Yet a serious variation in the meaning of symbols exists in the important field of map study in geography.

Before we proceed further, it would be proper to consider what a reputable geographer has to say, in a letter to the writer, in explanation of these findings: "One of the main reasons for the differences which you have noted, especially between competing textbooks, is due to the copyrighting of particular maps by different publishers. This absolutely prevents the use of the same forms by different authors." However, this reasoning does not account for the variations in maps copyrighted by the same publisher. The findings show that even in the same textbook there are variations in the color symbols used on the different physical maps. Furthermore, similar color schemes have been used by different publishers. Evidently the copyright hindrance is not the strong factor in this variation.

MATERIALS OF INVESTIGATION

Seven widely used textbooks in geography were selected for study. In addition to these a school atlas, unanimously considered the best by the authorities consulted, was analyzed. Each map contained in the eight books was examined as to the kind of color scheme employed and the range in elevation represented by each color. The results were put in tabular form for facility of reference and comparison. These tables appear at the end of this article.

MAP DEFINITIONS AND THE TEACHING OF GEOGRAPHY

A course of study in geography for elementary schools gives this definition of the subject: "It is the study of the earth as the home of man. This study involves: (1) a knowledge of the physical facts, (2) a knowledge of human activities, and (3) a knowledge of the interrelationships between these activities and the physical facts."¹ This statement gives the modern conception of the study of geography, for it includes causal relationships and what is commonly called "human geography." The course itself, from Grade V A through Grade VII B, is arranged causally. The material for each block of work is arranged in two groups: (1) the geographical con-

¹ *Course of Study and Syllabus in Geography for Elementary Schools*, p. 5 New York: Board of Education, 1928.

trols: location, surface, climate, and other resources; (2) the effects of these geographical controls on the lives of the people. By "human geography" is meant a study of the earth as the home of man, the emphasis being placed on man rather than on the study of his home. This emphasis on man naturally makes the study of geography interesting and practical.

When we consider this present-day conception of the study of geography, is it any wonder that teachers are in almost general agreement that instruction in geography should emphasize the study of maps? Certainly, if geography has been taught properly, children should be able through the study of maps to obtain a wealth of information concerning the geographical controls. Furthermore, if they understand the general principles of geography, they should be able to carry over knowledge obtained in this way, and they should be able to interpret readily the effects of such controls on the lives of people. Human geography is a study of relationships and is, therefore, really a division of the general class of causal geography. Thus, we see that map work is indeed an essential in the study of causal and human geography, the two elements stressed in the definition of the study of geography.

What maps are usually found in the classroom? For a long time the political map was dominant. Later, what is popularly called the physical map was employed. Still later, the advantages of the two were combined, and today the political-physical map is common. Many elementary-school teachers of geography do not have a clear conception of what is meant by some of the nomenclature used in connection with maps. This finding was a by-product of the present investigation. Hence, it will probably be advantageous to define some of the terms used.

A "map" is usually described as the symbolic representation, on a flat surface, of the exterior features of the earth. A "colored contour map" is a map which symbolically portrays only several average surface elevations. One color represents all land ranging between two certain altitudes, while another color is used to represent surfaces ranging between the highest altitude of the first region and an altitude still higher, etc. At this point, no doubt, the reader is beginning to ask, "Why is all this definitive material being given?

Doesn't the writer mean a physical map?" It is at this point that teachers err in their conceptions of a physical map. The name "physical map" is a generic term and covers such special maps as those depicting contours, precipitation, sunshine, soil, temperature, winds, animal distribution, etc. Thus, a person who is accustomed to the use of many and varied maps will inquire what kind of physical map is meant when it is stated in this article that physical maps are commonly used in schools.

A "political map" symbolically portrays certain man-made features of the earth, such as boundaries of states and nations, the locations of cities, and railroad and steamship routes. Practically no maps employed in the classroom are purely colored contour maps or purely political maps. Usually some special physical features are shown on each, such as latitude and longitude. Thus, when the term "political-physical map" is used, what is meant is a combination of the colored contour map and the political map, together with a few special physical features. To conform with the popular tendency, the writer in this article also refers to this type of map as a physical-political map. The findings are concerned only with the physical and political-physical maps included in school textbooks.

The most significant word in the definitions is the term "symbolic." What are the best symbols to use in the physical map? When is the proper time for teaching the meaning of symbols? What universality of application should these symbols have? These are only a few of the problems with which the conscientious teacher should be concerned. These problems indicate the extreme importance of the symbols employed.

SUMMARY OF FINDINGS

The findings given are not based mainly on logic; they are statements of facts. The reader should keep in mind that some of these findings cannot be sharply dissociated from others. Hence, there is need of cross-reference between the findings.

1. There is no agreement among the textbooks as to the color scheme used to denote various heights of elevations of land and the depths of waters. Greenish brown, brown, orange, dark brown, reddish brown, and red are variously used to denote the highest

elevations. Lavender, dark green, light green, olive, and bluish green are used to denote land that is below sea-level. There are similar variations in the colors used to denote most of the elevations between these two extremes.

2. Not only is there a lack of uniformity among the different textbooks, but, with the exception of only one book, no particular textbook makes use of a uniform color scheme in the various maps which the book contains. The symbol scheme is considered uniform if the same colors are used on every map in a book and if each color represents the same extent of elevation on every map. Textbook B, for example, uses dark brown to represent an elevation of ten thousand feet or more on the maps of North America, Central Europe, Central America, and Malaysia; this book uses the same color to denote an elevation of more than twelve thousand feet on the maps of Europe, British Isles, Africa, Asia, Philippine Islands, and South America. Picture how the pupil must keep in his consciousness the possibility of such changes and how he must continually readjust his concept of the symbol as he consults various maps!

3. All the maps agree with regard to the color used for denoting lowlands other than those below sea-level. Green is used as a symbol for the lowest lands and yellow for those which are more elevated but which are not particularly high. Yet, there is confusion even in this agreement. On some maps green is also used to denote lands below sea-level. If pupils have used such maps, they are accustomed to associate the color green with such depressions. What are their reactions when they find other maps using the same color for lands at, or slightly above, sea-level?

4. All the maps, except those of one series, are uniform in giving the elevations and depths in feet. The exception, Textbook C, gives land heights in feet, but the water depths are expressed in fathoms. How many children, or even teachers, know offhand the length of a fathom in feet? What negative learning effects result from the use of fathoms to express depths when children are accustomed to think of the numbers appearing next to the color symbols as representing feet?

5. With the exception of Textbook A, the same color does not represent the same height of land throughout any book. Compare

this finding with the second finding given. In Textbook D green on some maps denotes an elevation between sea-level and one thousand feet, and on others it is a symbol for elevations from sea-level to five hundred feet. Again, both white and whitish blue are used for water depths down to five hundred feet.

6. The color tints themselves vary. This variation cannot be shown in the tables. Even if brown is used uniformly in the textbooks, various shades are employed. One uses a brown overlaid with black dots or lines printed by the Ben Day process. Another uses a dark brown. Still another uses a russet shade. Reddish brown, greenish brown, etc., are also found.

7. There is confusion caused by using similar tints for heights and depths. One textbook uses a bluish green for lowlands and a greenish blue for shallow waters.

8. On many maps three tints of one color are used to represent successive elevations. This practice makes it difficult to read a map since fine differences in degrees of tinting must be carried in mind, continual reference to the key is necessary to see which particular tint is used for a certain region, and the pupil must have a fine sense of color values

Incidentally, the writer refers the reader to the maps originated by the International Map Committee, although these maps were not considered in the original investigation. It is interesting to note that the following colors, among others, are employed: three tints of blue, three of green, five of brown, and six of violet. Even the librarian in the map room at the New York Public Library agrees that one must be a color expert to avoid error in the interpretation of these standardized maps.

9. There is great variety in the keys. (a) The order of the symbols is sometimes upward, sometimes downward, and sometimes horizontal from left to right. (b) The keys are shown in various forms: as a hill, as a ladder made of rectangles, and as separate rectangles. (c) Some keys do not agree with the maps. Many instances of misprints in the keys were found. Consequently, these keys did not give true explanations of the map symbols, and the full value of the use of color symbols was negated.

THE REMEDY

What is the remedy for this chaotic condition in the use of symbols in physical and physical-political maps? There is a simple remedy. *It is obvious that there is urgent need for a standard color scheme, one which is aesthetic, which contains colors that are distinct from one another, which consists of colors representing heights and depths that are best suited to represent conditions in the study of geography*—in general, a color scheme composed of colors that have a strong pedagogical basis for their inclusion. Just as there is a standard method of indicating pronunciation, so there should be a standard method of showing contours. If, after such a standard symbol arrangement has been formulated, teachers and superintendents of supplies will insist on having maps made on this basis, publishers will produce maps to conform.

TABLES SHOWING CONTOUR SYMBOLS USED IN MAPS
IN ONE ATLAS AND IN SEVEN TEXTBOOKS
IN GEOGRAPHY¹

TEXTBOOK A

Greenish brown	10,000 and up
Brown	5,000-10,000
Light brown	2,000- 5,000
Yellow	1,000- 2,000
Green	Sea-level to 1,000
Light green	Below sea-level
Whitish blue	0- 5,000
Light blue	5,000-10,000
Blue	10,000 and down
North America United States New York State South Atlantic and South Central States North Central States Plateau and Pacific Coast States Canada and Newfoundland Central America and West Indies	

TEXTBOOK B

Dark brown	10,000 and up	12,000 and up	10,000 and up		
Brown	5,000-10,000	6,000-12,000	6,000-10,000	6,000 and up	
Orange	2,000- 5,000	3,000- 6,000	3,000- 6,000	4,000-6,000	4,000 and up
Light orange	1,000- 2,000	1,200- 3,000	1,500- 3,000	2,000-4,000	2,000-4,000
Yellow	500- 1,000	600- 1,200	600- 1,500	500-1,000	1,000-2,000
Green	Sea-level to 500	Sea-level to 600	Sea-level to 600	Sea-level to 500	Sea-level to 1,000
Lavender	Below sea-level	Below sea-level	Below sea-level	Below sea-level	Below sea-level
	North America	Europe British Isles Africa Asia Philippine Islands South America	Central Europe Central America Malaysia	Palestine	Australia and New Zealand

¹ The maps employing each arrangement are listed below the specific color scheme.

TEXTBOOK C

Orange	5,000 and up	5,000 and up	5,000 and up	15,000 and up	2,000-5,000	15,000 and up
Medium orange				5,000-15,000		5,000-15,000
Light orange	2,000-5,000	2,000-5,000	2,000-5,000	2,000-5,000		2,000-5,000
Yellow	1,000-2,000	1,000-2,000	1,000-2,000	1,000-2,000	1,000-2,000	1,000-2,000
Light green		500-1,000	500-1,000	500-1,000	500-1,000	
Green	Sea-level to 1,000	Sea-level to 500	Sea-level to 500	Sea-level to 500	Sea-level to 500	Sea-level to 1,000
Lavender	Below sea-level		Below sea-level			
Whitish blue	Sea-level to 100*		Sea-level to 100*			
Light blue	100-1,000*		100-1,000*			
Medium blue	1,000-2,000*		1,000-2,000*			
Blue	2,000 and down*		2,000 and down*			
	South America North Polar Re- gion South Polar Re- gion Africa Australia and New Zealand	Brazil Southern South America Northwestern South America France, Spain, and Portugal Southern Europe	Europe Germany and Poland Eastern Europe Palestine	India and Indo- China China and Japan	British Isles	Asia

* Expressed in fathoms

TEXTBOOK D (ATLAS)

Red	10,000 and up	10,000 and up	10,000 and up	10,000 and up
Brown	5,000-10,000	5,000-10,000	5,000-10,000	5,000-10,000
Light brown	2,000- 5,000	2,000- 5,000	2,000- 5,000	2,000- 5,000
Yellow	1,000- 2,000	1,000- 2,000	1,000- 2,000	1,000- 2,000
Light green			500- 1,000	500- 1,000
Green	Sea-level to 1,000	Sea-level to 1,000	Sea-level to 500	Sea-level to 500
Dark green	Below sea-level			
White	Sea-level to 500	Sea-level to 500	Sea-level to 500	
Whitish blue		500- 5,000	500- 5,000	Sea-level to 500
Light blue	500- 5,000	5,000-10,000	5,000-10,000	500- 5,000
Medium blue	5,000-20,000	10,000-20,000	10,000 and down	5,000 and down
Blue	20,000 and down	20,000 and down		
	Western Hemisphere Eastern Hemisphere North America Alaska South America Europe Australia	North America South America Eurasia Africa	Canada Gulf and Caribbean Lands Europe Great Britain and Ireland Japan China and Japan Levant, Arabia, Persia, and India New Zealand Australia Indo-China and East Indies United States	Part of North-eastern United States Pacific States Great Britain, Ireland, and North Sea Lands France East Balkans and Aegean Lands Central Baltic Region Crimea-Donets Region Middle Europe East China

TEXTBOOK E

Orange	10,000 and up	3,000 and up	3,000 and up	10,000 and up	5,000 and up
Light orange	5,000-10,000	2,000-3,000	1,500-3,000	5,000-10,000	
Yellow	2,000- 5,000	1,000-2,000	500-1,500	2,000- 5,000	2,000-5,000
Light green	1,000- 2,000	500-1,000	250- 500		
Medium green	500- 1,000	100- 500		1,000- 2,000	1,000-2,000
Green	Sea-level to 500	Sea-level to 100	Sea-level to 250	Sea-level to 1,000	
Olive	Below sea-level			Below sea-level	
Light blue	Sea-level to 600			Sea-level to 5,000	
Blue	600 and down			5,000 and down	
	Europe Northwestern Europe Western Mediterranean Countries Danube and Balkans United States East North Central States Canada, Newfoundland, and Alaska	Eastern Metropolitan Area	British Isles	Asia Southwestern Asia Orient Australia Africa Mexico, Central America, and West Indies Philippine Islands	Arctic Regions

TEXTBOOK F

Reddish brown	10,000 and up	8,000 and up	6,000 and up		
Brown	6,000-10,000	6,000-8,000	3,000-6,000	3,000 and up	5,000 and up
Light brown	3,000- 6,000	4,000-6,000	1,200-3,000	1,500-3,000	2,000-5,000
Whitish green	1,500- 3,000	2,000-4,000	600-1,200		
Light green	600- 1,500	1,000-2,000		600-1,500	500-2,000
Medium green	Sea-level to 600	Sea-level to 1,000	Sea-level to 600	Sea-level to 600	Sea-level to 500
Green	Below sea-level	Below sea-level	Below sea-level		
Light blue	Sea-level to 500				
Medium blue	500- 5,000				
Blue	5,000- and down				
	British Isles and France Part of Northwestern Europe	Southwestern Asia India, China, and Japan	South Polar Region North Polar Region	Australia and New Zealand	Africa Europe Asia

TEXTBOOK G

Dark brown	10,000 and up	
Brown	5,000-10,000	2,000 and up
Medium brown	2,000- 5,000	
Light brown	1,000- 2,000	1,000- 2,000
Light green	500- 1,000	500- 1,000
Green	Sea-level to 500	Sea-level to 500
Dark green	Sea-level and down	
	Europe West Central Europe Asia	British Isles

TEXTBOOK H

Red			4,000 and up
Brown	6,500 and up	8,000 and up	
Medium brown	1,650-6,500	2,000-8,000	
Light brown	650-1,650	500-2,000	
Dark green			2,000-4,000
Medium green		100- 500	
Light green	Sea-level to 650	Sea-level to 100	
Light olive			1,000-2,000
Green			100-1,000
White			Sea-level to 100
Light blue	Sea-level to 6,500	Sea-level to 650	
Medium blue	6,500-13,000	650-6,500	
Blue	13,000 and down	6,500 and down	
	North America Asia Africa Australia	United States	New York State

PROFESSIONAL ADVICE EXPECTED BY THE SCHOOL ARCHITECT FROM THE SCHOOL ADMINISTRATOR

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The planning and constructing of a school building is a co-operative enterprise involving the contributions of the superintendent or principal who is the professional adviser of the school board, the architect, and the contractor and his workmen. The finished product is the result of the effort of experts, each making his specific contribution. The school man may be expected to be the expert who will say what good school procedure requires in a school building, the architect to be an artist and a designer of buildings that are safe and efficiently and economically planned, the contractor to be a man who will render full value received in the way of honest workmanship.

The burden of making detailed, specific plans and specifications is placed on the architect, but he should be given certain assistance by the school specialist. There are three reasons why this assistance is required. In the first place, few architectural firms confine their efforts to the planning of school buildings. As a result, it is next to impossible to expect the average architect to keep himself familiar with all the advances in school procedure that affect the construction of school buildings. In the second place, a school building should be so constructed that it will meet the needs of the local school program which has been formulated by the school expert and his co-workers and adopted by the board of education. In the third place, the architect should have the advice of the school man as an economic measure. Often many changes are made in plans after they have been adopted, and some are made even after the contract has been let. All such changes are expensive, and most of them could have been avoided if the original plans had been the result of co-operative effort on the part of the school specialist and the architect.

Architects desire to please. They want their work to prove satisfactory, not only because they are professional workers and take

pride in seeing a task well done, but also because satisfied school staffs are their best advertisers. Just what advice, then, may architects expect from school men so that the newly constructed building may satisfy all parties concerned? The purpose of this article is to set forth the kinds of information that the architect may reasonably expect from the school expert, either superintendent or principal.

KINDS OF ADVICE TO BE GIVEN BY THE SCHOOL EXPERT

Every superintendent, or principal if he is the chief school officer, has certain responsibilities in connection with the planning of building programs. He is not expected to be an architect, but he should be able to give valuable assistance to this specialist. Some of the problems on which the architect needs the counsel of the school expert are presented in the following paragraphs.

Legal aspects.—Every state and most municipalities have passed legislation affecting building construction, and court decisions interpreting this legislation have been rendered. The school expert should be familiar with all the laws, ordinances, and court decisions that affect the planning and construction of a school building in his community. This information should be placed at the disposal of the architect so that all plans and specifications may be made according to existing legislative enactments.

Amount of money available.—The amount of money available will obviously be a factor to be considered in planning a building program. The school man will analyze the financial situation and determine the exact amount of money available for the construction of the building and for the equipment required. He, not the architect, knows the kinds, amounts, and possible costs of the equipment needed. After these items are determined, he can compute the net maximum amount which may be spent on the building.

Location and orientation.—The location and the orientation of the building will be determined by local conditions. As a result of an analysis of these conditions, the school man will know where the new building is to be located and how it is to be placed on the site. These decisions are the result of a careful study of the sources of the school population, the lines of travel, and the need for an orientation which will produce the most hygienic conditions possible in the light of

other factors that must be considered. These are points which the architect cannot be expected to know—hence the need for advice from the school expert.

Type of architecture.—It has been said that the school man is not expected to be an architect, yet he should be familiar, at least in a general way, with the major types of architecture. The new building should fit into the general landscape and should be an expression of the educational philosophy of the community. The school expert should be sufficiently familiar with the other buildings in this community and with the school philosophy of the local social group to decide whether the building should be of Gothic, Georgian, or of some other type of architecture.

Shape of building.—The preliminary study made by the school expert will enable him to know the present needs and the possible future building needs in the particular location. This study will permit him to determine the most advantageous shape for the new building—whether it shall be made in the shape of the letter H, U, E, or I, or in some other form. If additional space will probably be needed in the future, the general plan should make such extensions economically possible, and the original plans should show possible additions. Such forethought will enable the architect to place all steel work, steam and water lines, ventilating ducts, and conduits so that future additions can be constructed at minimum cost.

Type of construction.—Whether the new building is to be of fireproof, semi-fireproof, or non-fireproof construction will depend on existing legislation, the amount of money available for the space desired, the surrounding fire hazards, and the building policy of the local board. If the state laws or local ordinances require fireproof construction, the question is settled in advance. If no such legislation exists, the type of construction may be determined by other local factors. If funds are limited, the school board may be forced to reduce costs to the barest minimum that will provide adequately for the desired educational program. The author recalls two attractive school plants that are one-story frame structures. These buildings are attractive inside and outside, and each houses approximately four hundred children in perfect safety, each having been emptied in thirty seconds during fire drills.

If the building is to be of fireproof or semi-fireproof construction, one other question arises: Shall the construction be of steel with brick or stone veneer or of the solid masonry type? Building policy and costs will aid the school expert in deciding this question.

General plans.—Before a school board is prepared to employ an architect, it should have the suggestions of its professional adviser, the superintendent or the principal. This advice should be in the shape of general floor plans. The professional expert knows the number of children to be accommodated and the educational program to be carried out. He should know the approximate size of each room and the desired arrangement of the rooms. Given this information, the architect can proceed to the detailed planning. No doubt a number of conferences between the architect and the school man will be necessary to make adjustments required by architectural and engineering principles. Such conferences will result in securing rooms of approximately the desired size and arrangement. The writer recalls one building situation in which the preliminary plans of the architect utilized unit lengths of 15 feet, but, as a result of conferences, the unit length was reduced to 11 feet, $5\frac{1}{4}$ inches. Thus an attractive building was constructed, and rooms closely approximating the desired size and arrangement were secured.

In making the preliminary sketches, the school expert should keep in mind possible future additions. He should indicate the desired sizes and arrangements of the rooms, not only in the immediate building, but also in the future addition. This plan will enable the architect so to place weight-bearing walls and columns that they will not interfere with future modifications and additions.

Other factors that should be included in the plans submitted by the school man are the desired locations of exits, stairways, and fire escapes. The architect should be informed whether cloakrooms or recessed lockers are to be used.

Heating and ventilating.—The school expert cannot be expected to be a heating and ventilating engineer, nor can an architect be expected to be familiar with all the principles of heating and ventilating school buildings. From time to time new research brings forth new truth concerning the needs of school children and how these needs can be met. It is essential that the school man state clearly

the purpose of each proposed room, the number of children to be accommodated, and the character of the program to be maintained in each room. In addition, he should make known to the architect the results of research in the field of heating and ventilating school buildings so that the latter may incorporate such ideas as are applicable. The architect should also be advised which rooms or groups of rooms may be used at odd hours during late afternoon or evening. Such information will make it possible for the heating devices to be so installed that heat may be had where needed without heating the whole building.

Plumbing.—Nor is the school man supposed to be a plumber. There are a number of items concerning the plumbing, however, about which the architect needs advice. Some of these are: the number, the kind, the height, and the location of the drinking fountains; the number, the kind, and the height of washbasins; the number of urinals; and the number and the height of the toilets. Factors in school hygiene with which the school man is familiar provide the bases for deciding these points. In too many instances plumbing fixtures suitable only for adults are installed because they are placed by adults who are not acquainted with the needs of children.

If the building is to contain laboratories, the necessary plumbing must be indicated; outlets for hot and cold water, gas, and compressed air must be definitely placed and the respective volumes to be carried to each point stated. Drains to sinks must also be located. The architect must be acquainted with the specific need for grease traps, the need for sinks and drains which will withstand acids and other chemicals. Closely related to the plumbing problem is that of locating the position of exhaust pipes for fume hoods and stoves.

Windows.—The amount of glass area in relation to floor space is usually prescribed by law. The legal prescription does not cover the whole issue, however. The legal glass area may be provided, but, when it is realized that oftentimes the windows are covered with shades that cut out much of the light, an additional problem arises. The school man, knowing the orientation of the building, the facing of each room, the type of shade he plans to use, and the amount of light that will be needed in each room, is in a position to render valuable assistance to the architect who is planning the amount of window space to be included. Before satisfactory figures are arrived

at, a conference of the architect and school man may be necessary to determine the kind of sash to be used. Window construction is affected by another factor. If the desired ventilating system calls for opening the windows, this fact must be made known to the architect so that he may instal a type of sash which will make window ventilation possible. Casement windows cannot be used advantageously for ventilating purposes.

Another question which must be answered by the school expert is: What kind of glass shall be used? He may desire the use of prism or clear glass, or he may desire some type of glass which will admit the ultra-violet rays. Principles of school hygiene help the school man to answer such questions and to render valuable assistance in planning the building.

Wiring.—There are four types of problems concerning the wiring of a building: the provision of current (1) for lighting, (2) for motors and possibly for stoves, (3) for projection apparatus, and (4) for the laboratories. The school man knows the number of foot candles needed in each room because of the type of work to be done there; he knows how each room should be wired to secure the desired conditions of lighting by turning on the minimum number of lights; and he also knows where the switches should be placed. He knows the need for current to run a certain number of motors and stoves. He knows how many outlets are needed and where they should be placed to make possible the use of projection apparatus. He knows also the number and location of the outlets that will be required in the laboratories, as well as the kinds of current that will be needed. All this information should be given to the architect as a basis for his planning. He can then determine the sizes of wire needed and plan the wiring to meet the various requirements.

Floor covering.—The type of floor covering to be used might be left to the discretion of the architect, provided that he has been informed of the use to be made of each room. On the other hand, the school man should be sufficiently familiar with the advantages and the disadvantages of each type of floor covering to be able to render valuable assistance to the architect. The type of cleaning system to be installed will affect the selection of the type of floor. True, the type of floor determines the type of cleaning system, but, if conditions are present that preclude the selection of a cleaning system not

adapted to some particular type of flooring, the fact should be made known to the architect. The type of floor covering selected should be determined by the service expected of it and its relative cost.

Acoustical treatment.—It may be assumed that, ideally, every room should be treated acoustically. If funds prevent realization of the ideal, the school man should analyze the conditions that will exist in the new building and advise acoustical treatment where it will do the greatest good in so far as money is available for this purpose. It is hoped that the school expert will realize that the prime function of a school is to teach children and that the administration is only a means to that end. In other words, may not the money required for acoustical treatment be better spent in providing adequate teaching conditions?

Decoration.—The architect, being an artist, may have decided notions about the use of color, but the school man should give advice concerning the color scheme to be used, as he is a student of child psychology and is familiar with the principles of school hygiene. Certainly the decoration of the building and the color of the furniture should follow the dictates of the principles of art, but art need not be sacrificed to secure color effects in harmony with the principles of child psychology and school hygiene.

Service systems.—The architect should be told the number and the location of clocks, bells, and telephones to be installed. He should also be told where outlets for room radio sets are to be placed if the school man desires this service. The architect should be notified whether the cleaning system to be adopted calls for a central cleaning unit with a large motor or a number of outlets on each floor for portable cleaners. The wiring and conduits for these systems may be installed at comparatively small cost if done in the beginning, but to place them after the building has been erected will be extremely expensive, if not impossible.

Letting the contract.—The school man should be familiar with the various unit costs of building construction in his own community. He should be able to advise the architect in the writing of the specifications so that, in addition to bids on the whole building, bids on various items of the job will be submitted, such as excavation, brick-work, concrete-work, woodwork, lighting, heating, and ventilating.

The school man may feel that he does not know what to recommend because he does not know the cost of various items. Because of changes in the cost of labor and of building materials, it is impossible to make accurate predictions of costs. The school man may desire that certain features be installed in the building, but he does not know whether the amount of available money will make possible his desires. He should tell the architect of the items about which he has a question in order that alternate bids may be secured. After the bids have been received, he and the architect can determine the items which must be eliminated because of the cost. It is much easier to eliminate than to attempt to add items after the bids have been received.

NEED FOR CENTRALIZED ADVISORY AGENT

The point might be made that all superintendents or principals are not trained to give the type of advice described and further that they should not be expected to be so trained. If the chief school officer in each corporation, or some assistant, is not qualified to render such service as is suggested in the foregoing paragraphs, then some agent should be employed by the state school system to assist both the school man and the architect. Some state departments of public instruction now have bureaus of school-building. The road is paved for this type of service. On the other hand, if the local school officer does not definitely know what he wants, how can he make known to the state agent his desires? In any event, the local school expert, the professional adviser to the board of education, should know what is desired in a new building and know why and where he desires it

SUMMARY

In this article the writer has attempted to point out that the planning and construction of a school building is a co-operative enterprise. The services of highly trained specialists are needed, each making his specific contribution. The most important of these specialists is the school man; he should be able to give specific advice of an educational character to the architect, who is usually little acquainted with school procedures but who is an artist, an engineer, a designer.

SELECTED REFERENCES FROM THE LITERATURE ON EXCEPTIONAL CHILDREN¹

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The selected bibliography of the literature on exceptional children which is given in the following pages covers material published between April 1 and December 31, 1932. The books, monographs, or articles in educational periodicals which are cited have been classified as follows: (1) general references, (2) publications dealing with behavior and problem cases, (3) references concerning the blind and the partially seeing, (4) materials concerning crippled children, (5) publications concerned with deaf and hard-of-hearing pupils and children with speech defects, and (6) materials concerning sub-normal and backward children.

GENERAL REFERENCES²

147. BREED, JEANNETTE M. "The Orthogenic School," *University of Chicago Magazine*, XXIV (April, 1932), 262-63.

Describes the work done by the Orthogenic School of Chicago for children who, because of mental or physical handicaps, have been unable to adjust themselves in normal homes or schools. The University of Chicago co-operates in the maintenance of the school, which serves as a laboratory for students of education.

148. CONURN, W. G. "A Model School for Both Normal and Handicapped Children," *School Management*, I (June, 1932), 18-22.

A description of the plan, equipment, and program of the Ann J. Kellogg school in Battle Creek, Michigan. The organization includes both elementary-school and junior high school departments for normal children and for all types of atypical children. Physically handicapped, mentally retarded, mentally gifted, and socially unadjusted children are provided for through specialized programs.

¹ This list is one of a cycle of twenty lists covering all major aspects of the field of education which is being published co-operatively by the *Elementary School Journal* and the *School Review*.

² See also Item 69 in the list of selected references appearing in the February *School Review*.

149. CROTHERS, BRONSON. "Mental-Hygiene Problems of Children with Sensory-Motor Defects," *Proceedings of the First International Congress on Mental Hygiene*, pp. 475-87. New York: International Committee for Mental Hygiene, Inc., 1932.

Treats of the work of the Children's Hospital in Boston and discusses the need for taking care of the abilities, as well as of the defects, of children organically affected.

150. DOLL, E. A., PHELPS, W. M., and MELCHER, R. T. *Mental Deficiency Due to Birth Injuries*. New York: Macmillan Co., 1932. Pp. xiv+290

Presents the preliminary work of an extensive investigation of birth-injured children made at the Training School at Vineland, New Jersey. Twelve intensive case studies are described.

151. ITARD, JEAN-MARC-GASPARD. *The Wild Boy of Aveyron*. Translated by George and Muriel Humphrey. New York: Century Co., 1932. Pp. xxiv+104

A translation from the edition of 1894. The work describes Itard's classic experiment in its various phases.

152. JOHL, JANET P. "Irvington House, a Convalescent Home for Cardiac Children," *Trained Nurse and Hospital Review*, LXXXVIII (April, 1932), 437-44.

An account of the history and the activities of this non-sectarian home in Irvington-on-Hudson, New York. Objectives, admission requirements, and classification are explained, and a description is included of the school work provided. The home not only cares for the physical needs and treatment of the child suffering from a cardiac condition but attempts, through carefully supervised activities suited to his physical disability, to fit him for the rôle he must play in the world.

153. KLOPP, HENRY I. "The Children's Institute of the Allentown State Hospital," *American Journal of Psychiatry*, XI (May, 1932), 1107-18.

The need of an institute caring for children's mental health in connection with a state hospital is emphasized by the number of children who have been admitted to the Allentown State Hospital Mental Health Institute for Children in Pennsylvania. Since June 1, 1924, 266 first-admission children under sixteen years of age came to the institute through juvenile court, welfare, and social-service organizations or directly through parents and guardians. The specially constructed buildings, including a modernly equipped schoolroom, rooms for treatments, a gymnasium, etc., are described. Methods of therapeutic treatment and various activities are set forth.

154. McELWEE, EDNA WILLIS. "A Comparison of the Personality Traits of 300 Accelerated, Normal, and Retarded Children," *Journal of Educational Research*, XXVI (September, 1932), 31-34.

A study of three hundred children in Public School 208, Brooklyn, New York. In general, accelerated children exhibited all desirable traits studied to a greater degree than did retarded children.

155. McELWEE, EDNA WILLIS. "A Study of Mechanical Ability and Homogeneous Grouping," *Journal of Juvenile Research*, XVI (October, 1932), 304-9.

This study calculates the percentage of overlapping in tests of mechanical ability among three groups of pupils differing widely on the basis of general-intelligence tests. The distributions of the groups on the basis of mechanical ability are very similar.

156. MARTENS, ELISE H. *Opportunities for the Preparation of Teachers of Exceptional Children*. United States Office of Education Bulletin No. 21, 1931. Pp. 42.

A guide to the opportunities available to those who wish to prepare themselves to teach exceptional children of various types. Lists the institutions in which training is given and gives abbreviated descriptions of courses in the various fields.

157. WILSON, PAUL T., and JONES, HAROLD E. "Left-Handedness in Twins," *Genetics*, XVII (September, 1932), 560-71.

Twins yield a higher percentage of left-handedness than is found among the single born.

BEHAVIOR AND PROBLEM CASES¹

158. BURKEY, RUTH E. "A Statistical Study of the Sequence of Successive Delinquencies," *Journal of Juvenile Research*, XVI (April, 1932), 133-44.

To discover the typical sequence of delinquencies, if any, in the life of a juvenile offender, the author studied 198 cases of boys committed to the State Bureau of Juvenile Research from various courts in Ohio. The cases included 100 boys with normal intelligence and 98 with subnormal intelligence. The initial and subsequent offenses for the two groups are tabulated and analyzed.

159. CHADWICK, MARY. "The Neurotic Child," *Proceedings of the First International Congress on Mental Hygiene*, pp. 447-65. New York: International Committee for Mental Hygiene, Inc., 1932.

A psychoanalytic treatment of the disorders of the neurotic child. Specific cases are presented.

160. DICKSON, VIRGIL E. "Behavior Difficulties That Baffle Teachers," *Journal of Juvenile Research*, XVI (April, 1932), 93-101.

Points out and analyzes the causes of many of the obscure and baffling behavior difficulties found among school children. The thesis is presented that "behavior difficulties of many children are the natural outgrowth of the child's heredity and training, and the immediate environmental stress or stimulus that produces that behavior. In other words, all behavior, when the facts are known, is natural behavior." Emphasizes the importance of the teacher's understand-

¹ See also Item 106 in the list of selected references appearing in the March *Elementary School Journal*.

ing of these facts and stresses the necessity of the recognition of the early symptoms of maladjustment. Urges the assistance of psychiatrist and physician in serious cases.

161. HARTWELL, SAMUEL W. "Study of Twenty-five Children Presenting the Withdrawal Type of Personality," *American Journal of Orthopsychiatry*, II (April, 1932), 143-51.

A detailed study of twenty-five mentally abnormal or insane children and young adults who presented the withdrawal shut-in clinical picture, made by Miss Dorothy Cobb of the Smith School of Social Work, is used as the basis for discussion of the problems presented by this type of personality. Stresses the importance to psychiatrist, social worker, psychologist, and teacher of an understanding of the shut-in child and the necessity of the establishment of rapport with the individual who presents such a problem.

162. MALLER, JULIUS B. "Juvenile Delinquency among the Jews in New York," *Social Forces*, X (May, 1932), 542-49.

A report of an investigation of the records of Jewish boys and girls arraigned before the children's courts of New York City from 1909 to 1931. Data are presented on the proportion of Jewish children arraigned, decline in the proportion, sex differences, causes of delinquency, number of neglected children arraigned, disposition of cases, number of repeaters, and seasonal changes.

163. RUGGLES, EDWARD W. "An Analytical Study of Various Factors Relating to Juvenile Crime," *Journal of Juvenile Research*, XVI (April, 1932), 125-32.

The study endeavors to relate intelligence, mechanical ability, and early home training as factors involved in the development of criminal tendencies in juveniles. The subjects included 103 white boys from sixteen to twenty-two years of age, mainly first offenders, committed to the juvenile prison at Camp Polk Prison Farm, North Carolina. The chief results of the study are as follows: (1) The prisoners are much below the average in intelligence and in mechanical ability. (2) Mechanical ability is directly related to general intelligence. (3) Crimes requiring mechanical ability are committed by boys making the better scores in the mechanical-ability tests. (4) The baser sex crimes are largely committed by the feeble-minded. (5) Broken and unhappy homes are closely associated with juvenile crime.

164. SHAW, CLIFFORD, R., and MCKAY, HENRY D. "Are Broken Homes a Causative Factor in Juvenile Delinquency?" *Social Forces*, X (May, 1932), 514-33.

Reviews previous studies on the relation of the broken home to juvenile delinquency and reports a study by the authors involving a sampling of 7,278 school boys. Concludes that there is "a very inadequate basis for the conclusion that the broken home is an important factor in delinquency." Discussion of the article is presented by Joanna C. Colcord, Katharine F. Lenroot, Harry M. Shulman, and J. B. Maller.

165. SHUMAKER, NORDERT M. *The Behavior Problem Child in the Catholic School*. Educational Research Monographs, Vol. VII, No. 2. Washington: Catholic Education Press, 1932. Pp. viii+90.

The author considers the basic principles of child guidance as these are related to the needs and the opportunities of Catholic parochial schools. Cites specific instances of child-guidance problems in Catholic schools and shows how these are functioning in the adjustment of behavior difficulties. Outlines a plan for the education of the behavior problem child in the parochial school.

166. TIEBOUT, H. M., and KIRKPATRICK, M. E. "Psychiatric Factors in Stealing," *American Journal of Orthopsychiatry*, II (April, 1932), 114-23.

The authors, members of the staff of the New York Institute for Child Guidance, present the results of a study of the psychiatric factors involved in 106 cases of stealing handled by the institute. They outline the method of analysis used, describe a number of typical cases, and summarize their evaluations of the factors involved.

BLIND AND PARTIALLY SEEING

167. AMERICAN LIBRARY ASSOCIATION "Libraries for the Blind," *Outlook for the Blind*, XXVI (June, 1932), 96-97.

A tabular presentation of the activities in 1931 of eighteen libraries for the blind, their circulations, books in stock, and territory served.

168. CALDWELL, FLOYD FRANKLIN. *A Comparison of Blind and Seeing Children in Certain Educational Abilities*. New York: American Foundation for the Blind, Inc., 1932. Pp. 28.

Surveys the history of education of the blind and gives a discussion of the general testing movement and the measurement of mental ability and educational achievement of the blind. Attempts to compare the abilities of blind and seeing children on the basis of the results obtained by the Stanford Achievement Test. The author concludes that the time factor differentiates blind and seeing children to a marked degree but that the achievement of the blind compares favorably with the achievement of the seeing when allowance is made for the speed handicap.

169. CARTER, MATIE M. *Sight-saving Classes*. University of the State of New York Bulletin, No. 994. Albany, New York: University of the State of New York Press, 1932. Pp. 30.

Treats of the organization and the administration of sight-saving classes. The educational needs of children with seriously defective vision and the problems of instruction are discussed. Includes bibliography.

170. COE, LOUISE H. "Brief Review of High School Work at the New Mexico School for the Blind," *New Mexico School Review*, XI (April, 1932), 18-19.

A state high-school supervisor finds that the high-school work being carried on at the New Mexico School for the Blind more than meets the minimum require-

ments adopted by the state board of education for accredited high schools. Activities of the curriculum include typewriting, musical training, physical education, and vocational work.

171. "Conservation of Eyesight," *Pittsburgh School Bulletin*, XXV (May, 1932), 36-38

An extract of an address by Lewis H. Carris, the managing director of the National Society for the Prevention of Blindness before the tenth annual meeting of the International Council for the Education of Exceptional Children. Presents statistics on the number and the cost of sight-saving classes gathered by the National Society for the Prevention of Blindness and makes recommendations as result of the study.

172. CUTSFORTH, T. D. "The Unreality of Words to the Blind," *Teachers Forum*, IV (May, 1932), 86-89.

A report of an investigation made to determine the individual differences among the blind in the tendency toward verbal-mindedness and to discover the amount of difference existing between the congenitally and the adventitiously blind.

173. "Girl Scout Publications in Braille," *Girl Scout Leader*, IX (May, 1932), 57.

A list of girl-scout publications now available in Braille.

174. HALDER, R. M. "A Pioneer School of India," *Outlook for the Blind*, XXVI (June, 1932), 107-10.

Draws a picture of blind persons in India and shows the influence of superstition on the work undertaken for the blind. The history of the Calcutta school for blind children, with its problems, growth, and educational program, is interestingly portrayed.

175. HURST, A. D. "Ways and Means of Teaching Geometry to Blind Students," *Teachers Forum*, V (November, 1932, and January, 1933), 25-28, 53-57.

Each proposition was illustrated with a geometric figure cut from beaver-board. Letters were placed at desired places on these figures. With this equipment blind pupils were able to learn geometry.

176. KWALWASSER, JACOB. "Are the Blind Superior to the Seeing in Hearing?" *Educ. L* (April, 1932), 249.

Summarizes the study made by Carl E. Seashore, of the University of Iowa, in which is offered a generalization of relative equality in the sensory discriminations of blind and seeing pupils. Discusses a similar experiment in which approximately seventy-five boys and girls, ranging in age from twelve to eighteen, in the school for the blind at Batavia, New York, were measured by the Kwalwasser-Dykema music tests. When scores were compared with those published in the manual (based on earned scores of some five thousand seeing elementary- and high-school pupils of similar ages), it was found that the blind were superior to the seeing in every test given.

CRIPPLED CHILDREN

177. ELLIOTT, CHARLES M. "Training Teachers for Crippled Children," *American Schoolmaster*, XXV (June 15, 1932), 257-62.

The author emphasizes the importance of selection and training of teachers for all types of handicapped children. It is pointed out that the objectives of the orthopedic class and the needs of the crippled child should determine the teacher-training program. A program based on these objectives is outlined.

178. JAMES, IDA C. "Instructional Procedures in Hospital Schools," *Western Hospital Review*, XIX (June, 1932), 17-18, 25.

Discusses a study undertaken to discover, by job-analysis technique, the difficulties encountered by teachers in hospital schools. Steps followed in the investigation were: making difficulty analysis of teaching bedridden children, collecting and classifying methods, and formulating a summary and conclusion. Deals with such problems as health, happiness, citizenship, hospital environment, lack of social contacts, and meeting the regular public-school requirements.

179. LOMMEN, OLGA L. *The Organization of Special Classes for Crippled Children*. University of the State of New York Bulletin, No. 995. Albany, New York: University of the State of New York Press, 1932. Pp. 24.

The material of this bulletin deals with the organization and the facilities necessary for special classes for crippled children. Special methods, home teaching, daily programs, the course of study, and the physical care of children are discussed.

180. WENDELL, RUTH E. "Finding the Crippled Child in Arizona," *Public Health Nursing*, XXIV (April, 1932), 201-4.

Describes the organization and the activities of the Arizona society for crippled children. Discusses the procedure of a state-wide survey and the plans for the constructive follow-up work to be undertaken.

DEAF AND HARD-OF-HEARING AND SPEECH DEFECTIVES¹

181. BLUEMEL, C. S. "Primary and Secondary Stammering," *Quarterly Journal of Speech*, XVIII (April, 1932), 187-200.

Discusses the diversity of opinion concerning the nature and the cause of stammering. This difference of opinion, the author points out, is due to the absence of a solution of the problem of stammering and to a confusion of primary speech disorders with other complications and emotional reactions. The author sets forth the distinction between primary and secondary stammering in relation to fear and evaluates the various theories of the cause of stammering. He points out the need for research as a means of solving the problem.

¹ See also Item 91 in the list of selected references appearing in the March *Elementary School Journal*.

182. FREDERICKSON, L. H. "Lip Reading," *Montana Education*, VIII (May, 1932), 23-24.

A teacher of lip-reading explains what it is, its value, the difficulties in learning the skill, and the type of training needed by teachers of lip-reading.

183. KELLY, MARY D. "The Radioear in the Western Pennsylvania School," *Volta Review*, XXXIV (June, 1932), 245-47, 279.

Describes the technique developed in the use of the radio-ear over the five-year period during which this instrument has been installed in the Western Pennsylvania School for the Deaf. Many beneficial results have been brought about through its use.

184. SHIRLEY, MARY, and GOODENOUGH, FLORENCE L. "A Survey of Intelligence of Deaf Children in Minnesota Schools," *American Annals of the Deaf*, LXXVII (May, 1932), 238-47.

Reports the findings of the survey of intelligence of deaf children in Minnesota public schools and the state school for the deaf as measured by the Pintner non-language test and the Goodenough intelligence test, which are based on spontaneous drawings. The results of the investigation indicate, the authors point out, that "on the Goodenough test the deaf children, age for age, are somewhat below the standard of hearing children who are making normal progress in school" and that these "children appear to be correctly graded from the standpoint of educational accomplishment."

185. YOUNG, WALTER S. "Classes for the Deaf," *Pittsburgh School Bulletin*, XXV (May, 1932), 38-39.

An account of methods followed, the curriculum, and other activities in the class for deaf children at the Elizabeth Street School, Worcester, Massachusetts.

SUBNORMAL AND BACKWARD*

186. HEGGE, THORLEIF GRUNER; SEARS, RICHARD; and KIRK, SAMUEL A. "Reading Cases in an Institution for Mentally Retarded Problem Children," *Proceedings and Addresses of the Fifty-sixth Annual Session of the American Association for the Study of the Feeble-minded* (1932), pp. 148-212.

Describes methods of teaching reading to feeble-minded children.

187. *Individual Instruction of Subnormal Children in the Rural Schools of Connecticut*. Special Education Bulletin 1, Series 1931-32. Hartford, Connecticut: State Board of Education, 1932. Pp. 40.

A report of an experiment carried on by Annette Bennett of the state supervisory staff in special education. Fifty children with intelligence quotients ranging from 45 to 84.5 were selected from fifteen rural schools. An intensive program of remedial work in reading and arithmetic was carried on by the regu-

* See also Items 296 and 305 in the list of selected references appearing in the May *School Review*.

lar teachers under the supervision of the specialist. The report describes the diagnostic procedure and the remedial methods and shows the gratifying results of the program.

188. KENNEDY-FRASER, DAVID. *Education of the Backward Child*. New York: D. Appleton & Co., 1932. Pp. viii+236.

A book dealing largely with the practical problems of the classroom teacher in special classes for backward children.

189. MCCLURE, WILLIAM E. "The Remnant Capacities of the Feeble-minded," *University of Iowa Studies in Psychology*, No. XV, pp. 202-17. Psychological Monographs, Vol. XLIII, No. 1. Princeton, New Jersey: Psychological Review Co., 1932.

A feeble-minded group and a normal group, each containing forty-one subjects, were given a battery of tests. The results show that some feeble-minded subjects have capacities well above their general level, although no organization of such "remnant" capacities into "groups" could be proved.

190. NUNN, KATHERINE. "Special Classes for Retarded Pupils," *School Executives Magazine*, LI (May, 1932), 405, 429.

An age-grade survey of the white pupils in elementary schools in Dallas, Texas, resulted in the establishment of several additional special, or ungraded, classes for pupils who drop behind in their school work.

Educational Writings

REVIEWS AND BOOK NOTES

Education for civic understanding.—A recent book¹ by Professor Snedden makes an ardent plea for citizenship education more specialized than anything hitherto known in America. The book proceeds from the convictions (1) that the performance of civic duties is becoming more difficult, (2) that our schools heretofore have contributed little but literacy to education for citizenship, and (3) that such citizenship education can be made effective for young people twelve to eighteen years old provided it be given "under the oversight and by the aid of specially prepared teachers" (p. vi). The central argument of the book is expressed in these lines: "But are these high schools actually preparing their favored students for their proportionate shares in making that better political life? It is here contended that they are very far from doing so as yet. And why? *Because these high schools have not yet been supplied with teachers of political citizenship*" (p. 4).

Against the old notions that citizenship is taught by all teachers, that it can be taught through all subjects, that it can be taught only indirectly, that the personality of a teacher and not what he teaches produces good citizenship, Mr. Snedden rebels. He is also convinced that the "entire range of ancient and modern histories" will be of little value in his new type of education for "democratic political membership" (p. vi). He goes farther and suggests that "in such specialized capacities they [the teachers of political citizenship] would have to disclaim any competency to be teachers of history as a cultural subject or of any social science as a logically organized study" (p. 8). But later he says, "It is assumed, of course, that teachers of political membership will have drawn to the full for their own uses on whatever guidance is to be had from older histories" (p. 9). It is a little difficult to understand just how these teachers will be capable of drawing "to the full for their own uses" from fields of history in which, as already stated, they "disclaim any competency to be teachers." It is easy to agree with the author that teachers of citizenship should not ask their learners to prospect over the whole ground of underlying sciences, but it seems

¹ David Snedden, *Educations for Political Citizenship. A Critical Analysis of Certain Unsolved Problems of School Educations towards Superior Memberships in Democratic Political Societies*. New York: Teachers College, Columbia University, 1932 Pp. x+196. \$2 50.

that the teachers themselves, if they are to be anything better than propagandists, ought certainly to be possessed of competency in such fields as history, political science, economics, and sociology.

Apart from doubts which may arise on this score, there are others which will certainly be entertained as to whether we should have special teachers of citizenship just as we have special teachers of many subjects. Are citizenship and character subjects to be learned or are they by-products of living? One cannot but recall that many of the greatest patriots whom America ever knew never studied a word of citizenship in schools; never saluted the flag; never swore, with hand raised high, to defend the Constitution, until they were actually being inducted into office; and never piped a patriotic air. It is not improbable, indeed, that they imbibed an appreciation of the significance of the struggle for freedom, which had been often waged and often lost in earlier days, from that same ancient and later history which Mr. Snedden considers as "thin and unsubstantial sources of materials for the better civic educations" (p. vi) and that they were thereby inspired to identify themselves with that struggle in their own age.

THOMAS WOODY

UNIVERSITY OF PENNSYLVANIA

Teaching the social sciences in the lower school.—The great interest which has been shown recently in the field of the social sciences will attract many readers to a new book on this subject.¹ The scope of the book may be indicated by stating the titles of its six chapters: "Children at Work in a Social Environment," "Ways the Social Sciences Develop," "The Content of the Social Sciences," "The Organized Curriculum of the Social Sciences," "The Functioning Curricula," and "The Potential Curricula."

The purpose of the volume is clearly presented in an introduction by Patty Smith Hill. She traces the changes through which the curriculums of the kindergarten and the primary grades have passed during the last half-century, commenting at length on these stages: early kindergarten procedures in this country based on Froebel's principles; reforms in theory and practice of kindergarten education as a result of the criticisms of such educational reformers as Colonel Francis Parker, John Dewey, G. Stanley Hall, Edward L. Thorndike, and others; the reconstruction of the curriculums on more worth-while levels at a later date under the philosophy of Dewey, Thorndike, and Judd; and the introduction of the social sciences into the curriculums.

Miss Hill deplores the tendency among first-grade teachers to judge all worth in primary teaching by the sole standard of the child's progress in reading rather than by his activities in the social sciences. She says:

It [reading ability] is still all too frequently the standard for judging the child's readiness for promotion. Important as the acquirement of the proper techniques of the

¹ Mary M. Reed and Lula E. Wright, *The Beginnings of the Social Sciences* New York Charles Scribner's Sons, 1932. Pp. xxxiv+224 \$1.50.

three R's is and always will be in education, there are goals equally if not more developing for young children, depending upon their intellectual maturity and their ripeness and readiness for such work [pp. xix-xx].

These goals, Miss Hill points out, belong to the social sciences since the scientific habit is just as important as the literary or library habit. Moreover, the social-science activities bring into the curriculums for young children goals which are in keeping with their native interests.

In a Foreword the authors ask the question: "What is social science?" They answer the question by giving ten definitions, four of which characterize civics, three geography, and three history. The authors then proceed to set up and discuss the principles which have guided them in the organization of a curriculum plan for child development through social-science experiences in these subjects.

In chapter i, "Children at Work in a Social Environment," the authors describe ways in which the school builds up the child's natural interest in his immediate environment. The well-known activity of caring for hens is presented in detail, showing how expression in music, art, language, reading, and dramatization grow out of the experiences which the children have in caring for their pets.

Chapter ii, "Ways the Social Sciences Develop," is concerned with the development of fundamental conceptions basic to geographic understandings, with new information and new interests gained by the children, and with the art of social adjustment.

The remainder of the book deals with the content and the curriculums of the social sciences. In chapter iii the authors state: "The content of the social sciences in the lower primary grades is not found in isolation to other types of experiences. It is a definite part of the whole integrated curriculum" (p. 24). Since there seems to be some confusion existing among teachers concerning what is included in the social sciences, the following quotation is especially significant:

In the upper elementary and secondary schools, the social sciences are organized under the captions civics, geography, and history. These terms in the lower primary groups may seem pretentious and formal, but the background of experience which later attaches meaning and significance to social sciences becomes apparent in the outcomes of the activities of young children. There is, therefore, no need for change of terminology, but there is need for an interpretation of these terms on the age levels of young children [p. 25].

The discussion which follows shows how civics, geography, and history have their beginnings in children's experiences and interests. The authors provide concrete illustrations to show that civic concepts are built through "many specific situations to which the child naturally reacts" (p. 29). Health aspects and social qualities occur in all the activities in which the child engages. The opportunity for beginning history may be found in the child's curiosity concerning the difference between the De Witt Clinton engine and a modern locomotive

Chapter iv presents the organized curriculum of the social sciences. Using the children's interest as a point of departure for a curriculum, the authors state that these "interests include the problems of social life which are always changing, always leading on into larger fields of knowledge" (pp. 58-59). They present an inventory of children's interests under the following heads: community, communication, transportation, industries, nature interests, and people of other lands and races.

Chapter v, "The Functioning Curricula," gives accounts of children's group activities taken from records of teachers in charge of nursery schools, kindergartens, and first and second grades. The scope of the activities covered may be indicated by the titles: "An Interest in Trains" (two-year-old group), "A Village Interest" (kindergarten), "An Aeroplane Interest" (Grade I), "An Interest in Aeroplanes" (kindergarten), "A Study of Milk" (Grade I), "A Study of Trains" (Grade I), "A Study of the Banana Industry" (Grade II). The last chapter in the book deals with the potential curriculums. The authors point out the differences between the functioning curriculums and the potential curriculums as follows:

However, no teacher can utilize the children's interests satisfactorily and lead them into new experiences unless she has a breadth of knowledge, sufficient vision and ingenuity to plan an environment for worth-while learnings, and ability to organize the materials of instruction.

The potential curriculums in this chapter suggest the study in which teachers need to engage, and the materials for which they need to arrange if interests of children are to be developed. The organization of the potential curriculums is necessarily logical and is limited here in scope [p. 147].

The major part of the chapter is devoted to suggestions for developing interest in six topics, namely, trains, boats, aircraft, food supply, weather and climatic conditions, and a poultry farm. There is a well-selected list of books for the children and the teacher as well as a list of sources of illustrative material.

The book would have more value if suggestions for a more diversified number of activities had been included. Reviewing the concrete activities described, one is struck with the amount of space given to transportation. Of the seven activities illustrated in chapter v, four have to do with some form of transportation; of the six activities given in the last chapter, three deal with transportation.

One is also slightly confused by the terminology used to designate the central thought of the book. The title leads one to expect that the term "social sciences" would be used consistently throughout, but two exceptions are found: "social science" is used on page xxix, and on page 28 "a social-studies curriculum" is mentioned. Therefore, one is confronted with three terms in the discussion of this phase of the curriculum: "social sciences," "social science," and "social studies."

The authors have made a real contribution to the literature dealing with the subject. The material which they have presented is especially interesting and helpful to all who are concerned in teaching the social sciences to children.

GRACE E. STORM

The completion of a twenty-year project.—In 1912 the Department of Historical Research of the Carnegie Institution of Washington, under the supervision of J. T. Jameson, began a project of great magnitude, namely, the preparation of an atlas of the historical geography of the United States. In 1929 the American Geographical Society of New York accepted the responsibility of completing the work and placing it at the disposal of the public.¹ The project was completed in the late summer of 1932, a volume made up of 162 large pages of text and 166 plates containing 627 individual maps.

It would require many pages to do justice to this gigantic enterprise. Certainly nothing in its field has approximated it in scholarship, workmanship, and scope. When the editor, John K. Wright, librarian of the American Geographical Society, says in the closing words of the Introduction that the *Atlas* will be a dynamic force in historical and geographical studies in this country for many years to come, he does not overemphasize its importance. In fact, overemphasis would be difficult. Should anyone be inclined to doubt Wright's statement, let him examine the *Atlas* and be convinced.

In an effort to give the reader an idea of the content of the *Atlas* and the emphasis on its various aspects, reference is here made to the percentage of the total plate space given to the main divisions of the content. The following tabulation contains this information.

	Percentage of Total Space
1. Cartography, 1492-1867, and explorers' routes	16.8
2. Settlements and population	12.7
3. Lands	11.9
4. Boundary disputes	8.4
5. Natural environment	4.0
6. Indians	3.1
7. Agriculture, transportation, and commerce	13.7
8. Political maps	12.3
9. Reform movements	6.2
10. Churches, colleges, and universities	5.1
11. Military history	4.0
12. Plans of cities	2.2

Under each of these twelve divisions there appear a number of maps containing an enormous amount of data. For example, thirty-six individual maps are devoted to churches, colleges, and universities, thirty-eight to reform movements; twenty-six to transportation; sixty-four to agriculture, twenty to imports and exports; and seventy-seven to settlements and population. The remaining items indicated in the tabulation are treated with equal completeness. In each of the more than six hundred maps the student of American history will find data of significant value. In fact, he will find much data that have never before been at his ready disposal. Especially is this true of the data rela-

¹ Charles O. Paullin, *Atlas of the Historical Geography of the United States*. Washington: Carnegie Institution of Washington and American Geographical Society of New York, 1932. Pp. xvi+162 and 166 plates. \$15.00

tive to churches, colleges, and universities, reform movements, Colonial and state boundary disputes, and imports and exports.

The text—162 pages, including an Index of great value—furnishes the student with information concerning the sources of the data used in making the maps and a large amount of other useful and valuable material. This material is organized in terms of the large divisions of the maps. Under each of the large divisions each plate is considered separately. The amount of historical information given concerning each plate is sufficient to make the plate meaningful to the reader. In fact, so much substantial historical material is given in the text that one could correctly refer to the *Atlas* as a comprehensive history of the United States in terms of the historical geography of the region.

The *Atlas* deserves most wide and extensive use. Serious students of the history of the United States will find it indispensable. Certainly no college or university library can afford not to have it in duplicate copies. Reference libraries for pupils of junior and senior high schools can make productive use of it. Those who desire to emphasize aspects of social living in the United States other than the political will find in the *Atlas* a mine of material at their disposal.

R. M. TRYON

Why teach art in the elementary grades?—Many significant and thought-producing answers are found to this question in a recent book¹ for teachers and students of art. Perhaps the key to the entire theory presented in the book may be indicated by quoting the opening paragraph of chapter i.

Art has two factors, man and his environment. Man experiences his environment. Art is his response to this experience. Two things are essential to response. First, man must sense his environment. Second, he must have materials. If he does not sense his environment, he has no stimulus to response. If he has no materials, he has no means of responding [p. 1].

Miss Mathias' book suggests a program of study based on art as a factor of one's environment and the adjustment or adaptation of this environment to the economic, social, and cultural needs of life.

The content of the book is divided into the three following broad fields: (1) recognizing the art needs of children, (2) learning the educational processes essential to the teaching of art, and (3) mastering the essential subject matter in the field of art.

The materials of instruction as discussed in the book are based on both the creative needs and the aesthetic needs of pupils in the modern school. The creative factor aims to provide instruction in response to the creative instincts of a person. The author points out that "at one time creative power was thought to exist in only a few people. Now we believe that everyone has creative power" (p. 1). She also indicates that wonderful opportunities to express this power

¹ Margaret E. Mathias, *The Teaching of Art* New York: Charles Scribner's Sons, 1932 Pp xii+356. \$3.00

exist in the environment if children are properly trained in the early years of schooling.

The aesthetic factor aims to provide instruction in response to the desire for beauty in one's environment. Art appreciation is presented as a means of meeting the aesthetic need. "In addition to the pleasure derived from satisfying creative impulses, much enjoyment may be obtained from the work of others" (p. 2).

The author bases much of the theory of the present book on the premise that pupils receive great benefit aesthetically, as well as practically, by being taught to understand and enjoy the best work of the artist. Hence, outstanding examples of the fine, industrial, and commercial arts are presented to satisfy the aesthetic needs of the pupils.

The teaching of art in the elementary school is thus suggested as a means (1) to help each child to develop his creative ability, (2) to help him satisfy his desire for beauty, and (3) to help him appreciate the work of others.

A unique contribution of the book is the carefully organized and systematic instruction provided in the elements of vision and in the basic aesthetic principles of art structure. About one-third of the book is devoted to a discussion and interpretation of these fundamental considerations of art and their application to school problems. The remainder of the book contains much helpful material relating to the teaching of lettering, design, drawing, book making, and various manual activities, visual education, and art appreciation. A particularly helpful part of the book for inexperienced teachers is the section devoted to lesson plans and practice teaching, suggestions for units of work, materials and equipment, and the bibliography.

Miss Mathias has contributed greatly to the expanding curriculum of art for the elementary school by previous publications dealing with this subject. The present publication vitally supplements these earlier books and points the way toward a rich and practical program of art education in the lower grades of the public school.

WILLIAM G. WHITFORD

A series of textbooks in health education.—The authors of a series of textbooks in hygiene¹ have used as guides in the preparation of their material the principles (1) that health education should be positive, not negative, in emphasis, (2) that it should focus on the formation of health habits; (3) that it should, as a basis for the development of health habits, establish sound conceptions of the human machine and its operation; and (4) that it should, at all possible points, correlate with other subjects in the school curriculum and with education in social responsibility and citizenship.

¹ Charles-Edward Amory Winslow and Mary L. Hahn, *The New Healthy Living Series: The Game of Healthy Living*, pp. viii+216, \$0.64; *The Habits of Healthy Living*, pp. vi+218, \$0.64; *The Laws of Healthy Living*, pp. vi+250, \$0.64, *The Healthy Community*, pp. vi+266, \$0.68. New York: Charles E. Merrill Co., 1932 (revised).

burned; the illustration showing Constantine the Great viewing the flaming cross in the sky; the reference to, and illustration of, the episode of Alfred the Great and the burning bread; and the illustration of King Canute and his courtiers at the seashore.

In the organization of content the book conforms to present practice. The subject matter is divided into six major units, or blocks. Each unit contains a brief foreword expounding the salient aspects of the topic and an illustration appropriate to the central theme to be presented. At the close of each unit is a list of references to a carefully selected twelve-volume supplementary reading library. The essential usefulness and economy of this plan of providing for worth-while extensive reading should appeal alike to teachers and administrators. To insure pupil comprehension of subject matter, the authors have checked the words in the textbook against the Thorndike word list and have also inserted explanations of important historical terms as these are encountered by the pupil in his reading. The correct pronunciations of proper names and foreign words are indicated in the body of the textbook as well as in the Index.

The volume contains four colored maps, five full-page colored illustrations, as well as numerous black and white pictures, maps, and sketches. These visual aids are, on the whole, so selected and presented with reference to the subject matter as to be of maximum value. At the close of each chapter are varied pedagogical devices, such as questions, problems, projects, and drill tests. These teacher and pupil helps are sufficiently varied to hold pupil interest and generally are thought provoking. The self-checking tests are worthy of special mention. It might be suggested that these test exercises would have been improved if the terms included had been so grouped as to be more homogeneous.

A careful reading of the *Historic Background of Our United States* affords the reviewer little opportunity for challenging either statements of fact or interpretations. In this connection, however, the following points may be presented for what they are worth. Was every freeman in Athens a citizen? Did the Persian Empire include all the known world except India, China, Greece, and Carthage? Were the turns at the circus made short to insure "terrific speed" (p. 164) or rather to make the racing more hazardous? The account of the Roman persecution of Christians does not make clear the real reason for this persecution. A picture of Richard the Lion-hearted shows him to be wearing plate armor. Is it correct to imply that the Turkish conquests furnished the chief motivating factor in the fifteenth-century search for an all-water route to the Far East? Is it overstating the case to say that the defeat of the Armada "broke the Spanish sea power and gave England control of the ocean routes" (p. 390)?

The details mentioned do not, however, seriously detract from the merits of what will doubtless prove to be one of the most usable and worth-while history textbooks of its kind.

HOWARD R. ANDERSON

UNIVERSITY OF IOWA

Social history for the upper grades.—The term "social history" is so comprehensive that it may mean a variety of things. To most persons it would undoubtedly connote a discussion of the activities of man which most closely touch his life, particularly those affecting his family, church, and immediate community relations. "Political history," of course, appears clear in the minds of most persons as a study of the relations of man to his government. Of late, the expansion of the activities of the government, however, have been so broadened that this term, too, needs new definition and a broader conception. "Economic history" is, in the same sense as "political history," commonly comprehended. In all cases, however, it would seem that none of these types of history can easily be separated one from the other since the activities of man are so closely interwoven. Therefore, authors selecting any one of the terms might well include many topics which could be placed under the head of any other of the titles.

The book under review,¹ prepared with the aim "to trace the changes in our social, cultural, and intellectual life which have resulted from . . . enlarged economic and industrial development during the past forty years and the steps that have been taken to solve the difficult problems that have arisen as a result of these changes" (p. iii), is designed for seventh- and eighth-grade pupils in the schools. Forty pages are given to a review for the entire seventh year and the first half of the eighth grade. The Table of Contents is interesting because its topics are not grouped, according to the old form of history books, around the administrations of presidents nor, according to the later form, around the political activities determining a chronological periodization. The work is initiated, for the second half of the eighth grade, by a discussion of immigration, in which is set forth the commonly accepted belief in America as a land of opportunity. Inventions and discoveries, the importance of electricity in modern life, the automobile and the aeroplane, and the problems of an industrial nation become the focus of attention in succeeding chapters. Constitutional and political history are discussed in chapters entitled "Recent Changes in the Constitution," "Pan-American Relations," "The Outbreak of the World War," and "The World War," as well as succeeding chapters dealing with America in the war, in which economic aspects are not entirely neglected. Peace movements following the World War set forth the activities of those interested in maintaining the peace of the world.

The book is written simply, presents a pleasing appearance, and has a good binding. The Constitution of the United States, according to well-established practices, is included as an appendix. A fair index is found. Summaries, tests, suggested activities, projects for appraising the interests of the pupils are found at appropriate intervals in the book. However, if they were writing social history, why did the authors not include some of the activities centering in the

¹ James J. Reynolds and Grace A. Taylor, *Modern Social History of the United States*. New York: Noble & Noble, Publishers, 1932. Pp. xi+380. \$1.32

religious, educational, and other cultural activities found in a community? What about music and the arts? The reading habits of the American people? The development of co-operative enterprises to encourage intellectual enterprises? The use of leisure time? None of these are given the attention which certain political and economic aspects have received, and the authors thereby break faith with the title chosen for the book.

BESSIE LOUISE PIERCE

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BOYNTON, PAUL L. *Intelligence: Its Manifestations and Measurement*. New York: D Appleton & Co., 1933. Pp. xii+466. \$2.50.

COMMITTEES ON DANCING OF THE AMERICAN PHYSICAL EDUCATION ASSOCIATION FOR THE YEARS 1931 AND 1932. *Dancing in the Elementary Schools*. New York: A. S. Barnes & Co., Inc., 1933. Pp. xvi+134. \$1.00.

Educational Leadership: Progress and Possibilities. Eleventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence of the National Education Association, 1933. Pp. 528. \$2.00.

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PITKIN, ROYCE STANLEY. *Public School Support in the United States during Periods of Economic Depression*. Brattleboro, Vermont: Stephen Daye Press, 1933. Pp. 144. \$1.50.

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TOWSE, ANNA B., and GRAY, WILLIAM S. *Health Stories*, Book One. Chicago: Scott, Foresman & Co., 1933. Pp. 144. \$0.60.

WIRTH, FREMONT P., and THOMPSON, WADDY. *A History of American Progress*. Boston: D. C. Heath & Co., 1933. Pp. viii+522+xxxii. \$1.52.

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- HUNSBERGER, BYRON K. *Types of Error in Latin Word Knowledge*. Norristown, Pennsylvania: Byron K. Hunsberger (313 W. Fornance Street), 1933. Pp. 246. \$1.00.
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Educational News and Editorial Comment

THE REORGANIZATION OF THE MECHANISM OF SCHOOL ADMINISTRATION

It is becoming increasingly obvious that the mechanism of school administration in this country is in sore need of thoroughgoing reorganization. For the past quarter of a century or more, a number of factors have been operating in American life which have rendered the small-district organization wholly indefensible. Among these factors are the improved means of travel and communication, the mobility of population, and the tendency for taxable wealth to become concentrated in certain restricted areas. The drift of population into urban areas has so reduced the school population of many districts that the maintenance of a school of any type is an exceedingly costly enterprise. Facts such as the following indicate the indefensible type of district organization which prevails in many states: In Kansas there are 7,106 one-teacher schools with an average enrolment of only sixteen pupils. In Missouri "more than half of the rural school districts have fewer than twenty pupils in average daily attendance in all the schools which they provide." In Illinois there are 1,777 school districts having no more than ten pupils and 4,284 districts having no more than fifteen pupils. Sixty per cent of

the school buildings of the country are one-room schoolhouses. There are in the United States 127,000 school districts for administrative purposes. Control of educational affairs in these administrative units is vested in approximately 424,000 members of boards of education or school trustees. For the country as a whole there is approximately one school-board member to every two teachers.

A pamphlet published recently by the United States Office of Education, under the title *School Administrative Units*, describes in considerable detail the unsatisfactory type of school administrative organization which prevails in many parts of the country. The following statement is quoted from the pamphlet.

Within the forty-eight states there are approximately 127,000 school districts or administrative units under the control of about 424,000 school-board members. The average size of the units is twenty-three square miles. The average number of teaching positions to a unit is seven. There is one school-board member to every two teachers. In several of the states the school-board members outnumber the teachers. The average number of units per county is forty-two.

Of the 127,000 administrative units about 6,000 are town or township, 109,000 common-school districts, 7,000 independent and city, 2,500 union or consolidated, 1,300 separate high school, 845 county for both elementary and high school, and 160 county high school districts. . . .

It may be noted that of the 127,244 school districts or administrative units in the United States, 119,355 are found in the 26 states classed as "district" unit states; that the average size of the units is 18 square miles in the district unit states, 28 square miles in the town or township unit states, and 377 square miles in the county unit states. The average size of the units ranges from 5 square miles in Illinois and New York to 2,055 square miles in Utah.

In the district unit states the average number of teaching positions to a unit is five; in the town or township unit states, twenty-seven; and in the county unit states, ninety-three. The comparatively large number of district units brings the average for the country down to seven teaching positions per unit. If cities were not included, the average number of such positions per unit would be reduced to about three or four, and in the district unit states the average would be reduced to between one and two. The average number of teaching positions per unit including cities ranges from two in several of the district unit states to 352 in Maryland, a county unit state.

The average number of school-board members per state is 760 in the county unit states, 2,810 in town or township states, and 15,094 in district unit states. In Maryland, with 24 administrative units, there are only 101 school-board members. In Illinois, with 12,070 administrative units of all types, there are 38,-

635 school-board members. In nine of the district unit states there are more than 20,000 school-board members each.

In Arkansas, Idaho, Kansas, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, Oregon, South Dakota, and Wisconsin the school-board members outnumber the teachers.

The ratio of the number of school-board members to the number of teaching positions in the district unit states is 1 to 1.3; in town or township unit states, 1 to 6.1; in county unit states, 1 to 17.7; and in the United States as a whole, 1 to 2.

The number of children enrolled in the public schools of the country averages two hundred for each administrative unit. In the district unit states the average number of pupils enrolled per unit is 125; in the town or township unit states, 840; and in the county unit states, 3,338. City units and enrolments are included in the foregoing averages.

It is a well-known fact that in the district unit states there are thousands of districts in which there is but one teacher, and that in many of these districts there are fewer than twenty children enrolled in school.

In the district unit states the average number of administrative units per county is 62, ranging from 17 in Wyoming to 152 in New York. In the town or township unit states, the average number of districts per county is 21, ranging from 6 in Vermont to 38 in Pennsylvania. In the county unit states the average number of units per county is 1.8, ranging from practically 1 in Florida, Louisiana, and Maryland to 3.2 in Kentucky.

Just what size district is best for administrative purposes no one can say with any degree of exactness, but authorities on school administration are generally agreed that the unit should be larger than the small district found in the district unit states, and even larger than the township in some of the township unit states. For most of the states in which state-wide educational surveys have been made the commissions or survey staffs have recommended the county unit, but the survey commissions in several states have recommended what they term the "community unit."

Anyone acquainted with the practical phases of school administration knows that what may be a workable type of unit in one state would prove a failure in another. Each state should, therefore, study its own problems of school administration to determine whether the unit now in operation is as economical and efficient from every standpoint as would be some other type of unit. Since changes cannot well be made in a day, a program covering a period of years should be planned and an objective to be attained within ten years should be set up and approached gradually.

THE NATIONAL SURVEY OF SECONDARY EDUCATION

The readers of the *Elementary School Journal* will recall that in February, 1929, Congress authorized the National Survey of Second-

ary Education and appropriated \$225,000 for carrying on the work. The United States commissioner of education was designated as director of the survey. Leonard V. Koos, professor of education, University of Chicago, was made assistant director, and under his leadership and direction the survey has been carried to conclusion. Associated with Dr. Koos was a professional staff of thirty members, five of whom were regular members of the staff of the Office of Education and the remaining twenty-five persons selected from higher institutions and public schools of the country.

The following statement by Dr. Koos, published in a recent issue of the *North Central Association Quarterly*, indicates something of the purpose and scope of the survey.

A preliminary word may be said concerning the scope of the survey. Early in the deliberations of the advisers it became apparent that it would not be possible within the resources available to investigate all phases of secondary education. The major aspects of the field finally included were four: (1) the organization of schools and districts; (2) the secondary-school population; (3) certain problems of administering and supervising the schools; and (4) the curriculum and the extra-curriculum (inclusive of athletics). The fields of training of secondary-school teachers and problems of finance were left for consideration in other surveys subsequently undertaken by the Office of Education. Each of the four major fields selected for inclusion in the survey is so broad as to make it unwieldy for handling as a single project. Therefore these fields were subdivided into a total of twenty-four projects. . . .

It is more essential to an understanding of the findings of the survey to have some explanation of the procedures that have been followed than to be informed concerning the organization and scope. Most of the projects have been carried through four steps or stages. The first was that of (1) identifying the schools to be represented in the projects. This identification was with respect to some particular aspect of the school, for example, its organization, curriculum, or library service. The aim here was to find schools with outstanding or innovating practices in the aspect under consideration. The second stage involved (2) intensive study by inquiry form of these practices in schools thus identified. This stage supplied the basis for selecting the schools to be visited. (3) Visitation constituted the third stage. During the first-hand contacts afforded by the visits the specialists gathered additional information, checked on the information gathered by inquiry forms, and added that something to their impressions which is gained from observing the practices in the concrete. The fourth and last stage has been that of (4) tabulating and digesting the information gathered and preparing the reports on the projects.

The dominant four-stage procedure reflects one of the controlling policies

of the survey, which has been to study innovating practices rather than merely to ascertain typical conditions in all secondary schools of the country. This policy was prompted by the belief that analysis and interpretation of innovating practices would be more helpful to the schools of the country than would a mere study of status. Besides, information concerning status is already available along many lines. Also, it would have been out of the question to have made a study of status of all aspects of the schools represented in the outline in the approximately 25,000 public secondary schools of the nation.

Some impression of the extent of efforts to get at the facts of practice and conditions in the schools may be gained from a word concerning the numbers of inquiry forms sent out and of visits made to the schools. A total of about 80 different forms were distributed, ranging in length from a single post-card page to 46 pages and totaling more than 800 pages. The total of forms distributed was almost 200,000, and they went to large numbers of administrative officers in state departments and local school systems, teachers, pupils, former pupils, parents, and employers. The proportion of these forms returned has been highly gratifying, totaling almost two-thirds of all blanks sent out. This proportion indicates a highly favorable attitude toward the survey and assures for it an excellent foundation of fact.

The total number of visits to schools made by professional specialists has been more than 850, and the total of different schools visited is more than 550. The distance traveled to make all the visits foots up to almost 200,000 railroad miles. The visits took the specialists into 41 states and the District of Columbia. The fact that effort was made to observe innovating and outstanding practices wherever located, rather than to distribute the visits proportionally to all states and sections, indicates that such practices are not concentrated in any single state or region but are widely scattered over the nation. The distances traveled and the areas represented are evidence that the survey is, in truth, in the sense of geographic representativeness, what its title indicates, a "national" survey.

The report of the survey will appear in twenty-eight monographs totaling somewhat more than four thousand pages. The list of monographs, including numbers, titles, authors, and prices, follows.

1. *Summary*. Leonard V. Koos and Staff. \$0.15.
2. *The Horizontal Organization of Secondary Education—A Comparison of Comprehensive and Specialized Schools*. Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake. \$0.20.
3. *Part-Time Secondary Schools*. Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake. \$0.10.
4. *The Secondary-School Population*. Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake. \$0.10.
5. *The Reorganization of Secondary Education*. Francis T. Spaulding, O. I. Frederick, and Leonard V. Koos. \$0.40.

6. *The Smaller Secondary Schools*. Emery N. Ferriss, W. H. Gaumnitz, and P. Roy Brammell. \$0.15.
7. *Secondary Education for Negroes*. Ambrose Caliver. \$0.10.
8. *District Organization and Secondary Education*. Fred Engelhardt, William H. Zeigel, Jr., William M. Proctor, and Scovel S. Mayo. \$0.15.
9. *Legal and Regulatory Provisions Affecting Secondary Education*. Ward W. Keesecker and Franklin C. Sewell. \$0.10.
10. *Articulation of High School and College*. P. Roy Brammell. \$0.10.
11. *Administration and Supervision*. Fred Engelhardt, William H. Zeigel, Jr., and Roy O. Billett. \$0.15.
12. *Selection and Appointment of Teachers*. W. S. Deffenbaugh and William H. Zeigel, Jr. \$0.10.
13. *Provisions for Individual Differences, Marking, and Promotion*. Roy O. Billett. \$0.40.
14. *Programs of Guidance*. William C. Reavis. \$0.10.
15. *Research in Secondary Schools*. William H. Zeigel, Jr. \$0.10.
16. *Interpreting the Secondary School to the Public*. Belmont Farley. \$0.10.
17. *The Secondary-School Library*. B. Lamar Johnson. \$0.10.
18. *Procedures in Curriculum Making*. Edwin S. Lide. \$0.10.
19. *The Program of Studies*. A. K. Loomis, Edwin S. Lide, and B. Lamar Johnson. \$0.15.
20. *Instruction in English*. Dora V. Smith. \$0.10.
21. *Instruction in the Social Subjects*. William G. Kimmel. \$0.10.
22. *Instruction in Science*. Wilbur L. Beauchamp. \$0.10.
23. *Instruction in Mathematics*. Edwin S. Lide. \$0.10.
24. *Instruction in Foreign Languages*. Helen M. Eddy. \$0.10.
25. *Instruction in Music and Art*. Anne E. Pierce and Robert S. Hilpert. \$0.10.
26. *Nonathletic Extracurriculum Activities*. William C. Reavis and George E. Van Dyke. \$0.15.
27. *Intramural and Interscholastic Athletics*. P. Roy Brammell. \$0.10.
28. *Health and Physical Education*. P. Roy Brammell. \$0.10.

Because of the magnitude of the task of editing and printing the report, it will be some months before all the monographs are published. The monographs in the foregoing list which have already appeared are Numbers 10, 15, 17, 20, 22, 23, 25, 27, and 28. Orders may be placed with the Superintendent of Documents, Government Printing Office, Washington, D.C.

JUNIOR HIGH SCHOOL REORGANIZATION IN INDIANAPOLIS

The Board of School Commissioners of Indianapolis has published an administrative handbook describing in some detail the plan of junior high school organization which is being worked out in that

city. The plan should be of special interest to boards of education and superintendents who would like to establish junior high schools but who feel that action should be delayed until funds for building purposes are available. The plan is based on the conviction that many of the essential benefits of the junior high school type of organization can be secured by an internal reorganization of the work of the seventh, eighth, and ninth grades without housing these grades in a separate building. To quote from the handbook:

It is evident, therefore, that the essential features of the junior high school idea can be introduced into any school in which pupils of this age are enrolled. In brief, any school in which the teachers understand and appreciate the perplexing problems of adolescent youth and earnestly endeavor to assist and guide the individual pupil in the solution of these problems; and in which the curriculum, the teaching procedures, and the general plan of organization are specifically developed to minister directly to the needs and interests of adolescent pupils, has already incorporated the spirit of the junior high school and consequently is a junior high school in the fullest sense of the word

The following statement describes the general plan of reorganization which is being undertaken.

Reorganization of the seventh, eighth, and ninth grades has been undertaken in order to incorporate as many of the recognized and proved features of the junior high school as is possible without disturbing to any considerable extent the present administrative organization. While it is customary to group seventh, eighth, and ninth grades in relatively large buildings equipped for an enriched program of studies, it was decided that it would be unwise, at least for the present, to change the administrative grouping and housing of the children. In Indianapolis, as in many other cities of its size, there are developing serious objections to the centralization of pupils of this age apart from the cost involved in buildings. For example, the arteries of transportation are becoming such barriers to cross-town travel that smaller administrative units are almost imperative. Were the financial conditions favorable to an extended building program, it would create a very serious administrative problem during the period of transition because of the necessity of maintaining a dual organization for a number of years. For these reasons it was decided to devise a plan whereby the reorganization program would be carried on in all of the schools concerned simultaneously.

The greater number of the present elementary buildings have shops, home-economics laboratories, auditoriums, and gymnasiums, so the necessary building facilities are fairly adequate. Departmentalized instruction has prevailed in the seventh, eighth, and ninth grades for over twenty years, so from this point of view the reorganized program will be quite easily introduced. Also, the teaching staff compares very favorably with the staff of typical junior high schools. A

large percentage of the teachers are graduates of a four-year college or normal-school course and are well prepared both in academic and professional training. Many of the teachers who do not have degrees have taken recent training and are therefore familiar with current trends in junior high school education.

With the present building facilities, and a well-trained, up-to-date staff of teachers in the departmental schools, plans were formulated at the beginning of the current year to introduce some of the other features of the junior high school, namely, a distinctive administrative organization, an enriched program of studies, extra-curriculum activities, appropriate teaching procedures, a definite program of personal, educational, and vocational guidance, and better articulation between the elementary and high schools.

As to organization and administration, it is the plan to leave the seventh and eighth grades where they are now housed. The ninth grade is to be organized as a subunit of the senior high school. The teachers who are best prepared to carry out the junior high school idea will be selected from the general high-school faculty for the ninth-grade work. The shops and laboratories of the high-school plants will be available for the junior high school purposes. In short, all of the facilities of the large high schools will be available to provide exploratory, tryout, and guidance activities for the ninth-grade pupil so that he may be prepared to enter the tenth year, the beginning of the senior high school, with guidance and purpose essential to making the last three years of secondary education highly successful. Much has already been done in the various high schools toward a transformation of the ninth year to a special unit embodying the latest junior high school thought.

During the past year a reorganized program of studies has been developed, tentative courses of study have been prepared, a comprehensive guidance program has been definitely planned, and special provisions have been made for a closer articulation between the elementary and high schools. A lengthened class period has been adopted, and steps are being taken to assist the teacher to develop desirable classroom procedures and appropriate teaching techniques.

In addition to a general discussion of the purposes underlying the plan, the handbook contains sections dealing with such matters as procedure in the reorganization of the curriculum, educational objectives, the program of studies in the seventh, eighth, and ninth grades, home-room organization and activities in the junior high school, guidance in the junior high school, and a digest of the courses of study in the junior high school grades.

ECONOMY AND THE MODERN CURRICULUM

The following statement by Superintendent Charles L. Spain, of Detroit, was published in a recent number of the *Detroit Educational Bulletin*.

In commenting upon the urgent need for economy in the present crisis and the necessity for curtailment in public expenditures, a representative citizen recently observed, "In my childhood we thought we were doing very well if we received training in the three R's. We found no need for gymnasiums, playgrounds, pools, shops, kitchens, or studios for music and art—the luxuries for which this generation expects the taxpayer to foot the bill." This frank expression of opinion on the part of a man who really believes in schools and in the efficacy of education, reveals an attitude of mind which is all too common and offers a challenge to all believers in the modern educational program—a challenge which should be met.

In every period of our national life the curriculum of the common school has been planned to teach the children those things which the home, the church, and the community through its various activities could not teach as well. The curriculum of any period therefore is a reflection of the needs of the children during that period, an index of the service which the community demands and the school renders. In the pioneer life of the Puritan the school played little part. The chief motive for education was a religious one, and the home, the church, and the community carried the responsibility, leaving to the school a meager curriculum of the three R's together with lessons from the Bible and Prayer Book. A curriculum of the three R's therefore was ample for the school of the pioneer age . . .

The schools have made great progress in reducing illiteracy by giving children the ability to read, write, spell, and cipher to a degree sufficient for the ordinary uses of contemporary life. To have accomplished this has been worth while but is not enough. Facing as we are today a complex civilization with its baffling situations which demand constant readjustment on the part of the individual, popular education would utterly fail to meet its responsibilities if it provided for the oncoming generation nothing but the tools of learning. A curriculum which directs its appeal merely to memory and intellect would fall far short in this industrial age. It must strike more directly at the roots of child nature. It must promote physical health, emotional stability, right attitudes toward life and its problems, and a sense of obligation toward society as a whole. These things are basic in the development of character and citizenship.

In a day when the great mass of people dwelt in rural districts and small towns, where play space was ample, where swimming facilities were near at hand, where household duties, chores, and the simple industries of the home and community provided vocational training, where gardens, fields, and woods made contact with nature easy for all, the community itself gave the child those experiences which prepared him for the life which he was to live, and the "essentials" as far as the schools were concerned were the three R's.

Today we face a very different situation. Over half of our people are crowded into restricted areas. For the younger children the play space has become the public highway, natural opportunities for learning to swim are largely wanting, chores and chances for vocational training are rare outside of factories, and direct contacts with nature are few.

In this situation children must be introduced to a society more difficult to understand than ever before, imposing great responsibilities upon the younger generation, providing them with more opportunities for leisure while at the same time many of the traditional social sanctions which kept youth in restraint seem to have lost their potency.

In the midst of a highly organized industrial society the school, appreciative of its opportunities and responsive to the demands of a progressive community, has undertaken to provide for the children some of the opportunities which the industrial age has taken away. So in Detroit ample playgrounds, gymnasiums, and playrooms represent the public commons of an earlier time; swimming pools under hygienic conditions replace the "ole swimmin' hole"; manual and industrial arts and home economics stand for the chores and home industries of a bygone day, while music, art, the library, and the varied activities of the auditorium provide interests which help the child to spend his leisure time in a worthwhile way.

Detroit with its art museum, public library, symphony orchestra, and civic theater has become a patron of art, literature, music, and dramatics because they contribute to the cultural life of the city. Music, art, dramatics, and literature in the schools not only reflect the community's attitude toward these finer things but also give recognition to the thought that through these forms of appreciation and expression the lives of the children can be made happier, and later as adults they can better understand and appreciate the cultural opportunities which the city provides.

To bid us return to the curriculum of the days of the ox cart or the horse and buggy as a means of training our children for the era of the automobile and the aeroplane is to seek the unattainable. To train the children of today for the life of today, the curriculum of today must be richer, more varied, and more comprehensive than the narrow curriculum of the three R's.

But, says our representative citizen, "Granted that this broad curriculum is necessary to meet modern social needs, how can we in these days afford the extra cost which these new subjects entail?" On the surface his position appears to be unassailable, but in fact it is not. Paradoxical as it may seem, to remove music, art, auditorium, and health education from the program of the elementary school and give the entire time to the three R's would *not* save money—it would cost more money. The logic of the facts will show this to be true.

The school of the earlier day to which we would return if we should eliminate that which is modern from our schools required one teacher for each classroom, or twenty-four teachers for a twenty-four room building. The twenty-four room school of today with its gymnasium, auditorium, playrooms, and library can be operated with twenty-two teachers, or two teachers less than the old school. This is possible because auditorium and gymnasium teachers can instruct from eighty to ninety children at one time while regular classroom teachers can instruct only half as many.

From another angle the proposal to eliminate the use of gymnasiums, play-

rooms, and auditoriums from the school program would be impracticable and expensive. These rooms are now used to house classes of children every hour of the day. Their capacity is equal to that of five classrooms, or 225 pupils. If these units are closed and the teachers eliminated, we shall lose this capacity in every building in which these special rooms have been provided. To carry out this policy throughout the system would reduce the available school capacity by about 24,000. The loss of this capacity would throw many thousands of children on half-time.

Economies in education there must be, but let these economies be brought about only after a careful analysis of all of the facts and with the interests of the children first in mind.

AN EXAMPLE OF A MISTAKEN ECONOMY PROGRAM

The following document illustrates how citizens and taxpayers in their desire to bring about retrenchment in expenditures for schools may be led to adopt policies which are not only unsound but positively vicious in their consequences.

TO THE HONORABLE SCHOOL DIRECTORS OF THE CITY OF . . .

WHEREAS, the school taxes in the City of . . . , County of . . . , and State of . . . , have become burdensome in the extreme, we, the undersigned citizens and taxpayers of the above-named city do hereby petition your honorable body:

That in accordance with good business principles as applied by necessity in these times, you reduce, as far as within your power lies, the expenditures so that there will be at least a reduction of twenty per cent (20%) in the tax assessment for the ensuing year.

That you make a typewritten report each month for all receipts and expenditures for each separate department of the schools, wherein you itemize in detail the expenditures of the domestic science, manual training and all athletic departments, same to be prepared by the instructors in their respective departments.

That a typewritten report of bids for the purchase of supplies, equipment, repairs, etc., be made, giving the names of all parties bidding and the amount of each bid.

That you appoint a committee to make an inventory of all school supplies, mechanical equipment, and also to make a survey of buildings and valuation of same for the purpose of placing, if advisable, a lower insurance on same.

That these reports severally and collectively be made by the Secretary and presented to the executive committee of the Taxpayers Association of . . . not later than five days after the regular monthly meeting of your Honorable Board.

That a committee composed of three members of the School Board and two members of the . . . Taxpayers' Association be appointed, together with the Superintendent of Schools to confer and pass upon the school budget . . . before it is submitted for the regular approval of the School Board.

That a typewritten statement be prepared each month by the Secretary of the Board, wherein a full and detailed report be given of all bills to be passed upon by the Board at its regular meeting, giving the amounts to be paid, and no bills other than those mentioned in this report shall be paid at this meeting.

That a copy of this statement be sent to each member of the School Board and also to the Chairman of the executive board of the . . . Taxpayers' Association five days previous to the meeting.

That you put a resolution on the minutes of your Board wherein you certify that same will be done.

We would recommend the following:

That the elimination of paid watchmen at school street crossings be made and a student patrol under the supervision of the city chief of police be substituted for same.

That salaried doctors, dental hygienists, dentists, and nurses be eliminated.

That the football coach be eliminated, and all school athletics be placed under the instructor of physical training at a salary not to exceed that of any other teacher in the high school.

That all employees who can be dispensed with be eliminated, and salaries of janitors, engineers, and assistants be reduced in conformity with reductions made in other lines of business.

That, all other things being equal, resident teachers of the City of . . . be employed.

That any teacher or principal receiving a salary in excess of that prescribed by law be reduced in conformity therewith.

That a stenographer, who may be a student in the commercial department, be detailed to make notes of the proceedings of each board meeting for the benefit of the taxpayers of the City of . . .

There is one principle of public administration for which taxpayers' associations and all other groups of citizens must have regard unless the efficient administration of the schools is to be seriously impaired. That principle is that the board of education and its professionally trained employees shall be given complete freedom in the administration of the schools. To be sure, the board of education, like all other public officials, should be held to strict accountability to the public, but any attempt on the part of any group of citizens to usurp the functions of the board is sure to prove disastrous. If a community is convinced that it is spending more for the support of its schools than it can afford to spend, the remedy lies in reduced taxation and a reduced budget and not in meddling interference of the kind illustrated in the foregoing document.

THE TULSA EXPERIMENT WITH UNGRADED SCHOOLS

A recent issue of the *Tulsa Tribune* carried the following account of a new type of organization which is being tried out in the schools of Tulsa, Oklahoma.

Grades in the Tulsa elementary schools may become a thing of the past next fall. They have already been abolished at Celia Clinton School in a new curriculum set-up which Superintendent Merle C. Prunty described to the board of education. . . . The superintendent suggested that the plan be studied for system-wide adoption.

When children returned to Celia Clinton School . . . at the beginning of the second semester, the first and second grades were still classified as first and second grades. But there are no third, fourth, fifth, or sixth grades at Celia Clinton.

Instead, there is a new classification of children, worked out by Principal F. L. Hambrick and Assistant Superintendent Leonard Power, to provide every child with an opportunity to succeed in his school work.

At the completion of second-grade work the children are all given two types of tests. One attempts to roughly divide the rapid learners from the less rapid learners. The others apply to achievement in specific subjects—educators call them "tool" subjects, and most people know them as the "three R's." They are reading, arithmetic, and writing, with spelling included.

The rapid learners are divided for each subject on basis of achievement in groups of forty. The forty most advanced children in arithmetic will take that subject together. The forty most advanced children in spelling will take that subject together. It is quite likely, Principal Hambrick says, that they will not be the same children. . . .

The groups of forty in the tool subjects will be possible because they are comprised of children of approximately equal ability, and there will be neither unusually able children to race the class nor sluggards demanding special attention. Groups of forty will increase class sizes to such an extent throughout the Tulsa school system that the schools may operate with thirty or forty fewer elementary teachers next year, with a saving of \$50,000, Superintendent Prunty estimates.

The system is devoted entirely to preserving the child's self-confidence, Principal Hambrick says. Thus, at the end of each semester, there will be more achievement tests and regrouping in the subjects. The child will not know whether he is in a higher or lower group. He will be promoted regardless of his reclassification.

"There is no point in waiting till the end of a semester to flunk a child who is failing in a subject," Hambrick says. "It is cruel to the child to keep him where he cannot keep up. As soon as such a situation develops, the child will be reclassified. We shall have ten or more levels in each of the tool subjects, and reclassification will be comparatively easy."

Children will not go on to junior high school until the same age as they now enter. "The more advanced groups might be able to complete the elementary curriculum as it now stands in three years instead of four. We shall enrich the curriculum for them," Hambrick said.

"The average child will complete the work in four years as he does now. The slower child will be taught the rudiments, the core of the curriculum, so that he can begin junior high school work at the same time as other children of his age."

THE PEABODY CONFERENCES ON EDUCATION AND RACE RELATIONS

A good deal of significance attaches to the conferences on education and racial adjustment which have been held in the past two years at George Peabody College for Teachers, Nashville, Tennessee. These conferences have been sponsored by a group of leading educators in the South and have been financed by a grant from the Carnegie Corporation of New York. The first conference, held in July, 1931, was attended by sixty southern educational leaders representing thirty-five colleges and a number of state, county, and city boards of education in thirteen states. The expressed purpose of the gathering "was to consider the opportunity and obligation of southern educational institutions—colleges and public schools—to make a constructive contribution to the South's peculiar problems of race relations." At the end of the first conference committees were appointed to "bring together available material, plans, programs, courses of study, bibliographies, and the like, for teaching race relations in schools and colleges" and to formulate plans and arrange for a second conference in 1932. At the second conference, held last July, reports were made of a number of significant experiments in teaching race relations in college and high-school classes. At the same time considerable attention was given to organizing instructional materials which could be employed in various courses in schools and colleges. The following "Conference Findings" were unanimously adopted at the close of the second conference.

1. The organization of material and outlining of courses on "The Negro" and on "Race Relations" are important. The work should be completed and made available for the departments of history and sociology in all of our southern colleges and universities.
2. The teaching of a class in race relations once each year is excellent, but it is not sufficient. Units of teaching based on this problem should be outlined in

all subjects where possible. Suggestions and outlines of extra-curriculum work that may be carried on in connection with this problem should be made. Suggestions and lesson plans for elementary and high-school classes should be prepared. All these should be so carefully made as neither to overemphasize nor minimize the relation of the negro to our social, religious, political, and economic life. All such outlines and plans should be made available for all the schools, colleges, and universities of the South.

3. These outlines will be of value in proportion to the amount of use made of them. It is not sufficient that just a few colleges should use them. Some means should be devised to interest all the colleges and universities in the placing of such courses in their curriculums and the organizing of units of teaching in other subjects where possible.

It is suggested, as one means, that the state superintendent of education in each state be asked to call a meeting of the president and representative faculty members of each institution, both privately endowed and tax supported, sometime after the opening of school this fall and have clearly and concisely placed before them the work we are suggesting, and that the supervisor of colored schools in the state be charged with the responsibility of seeing that the program is arranged in accordance with these or similar suggestions.

4. It is recommended that this conference be continued, but that an effort be made to interest more college administrators in the meeting next year; and meantime that there be presented and distributed as much of the proceedings of this meeting of the conference as the executive committee deems advisable.

The report of the proceedings of the second conference, entitled *Education and Racial Adjustment*, may be procured for ten cents from the Commission on Interracial Co-operation, 703 Standard Building, Atlanta, Georgia.

THE NEED FOR DIAGNOSTIC TESTING

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The study reported in this article was concerned with two questions: (1) To what extent should the score given to a pupil's arithmetic test paper be affected by the methods he employs in deriving the answers to the examples in the test? (2) To what extent is it possible for a teacher to ascertain by an examination of a pupil's test paper the needs of the pupil which should guide the administration of remedial instruction?

MARKING TEST PAPERS

The writer requested a teacher in a fourth-grade room in a small city school system to permit him to give an individual diagnostic test to her pupils who were weak in arithmetic. The Buswell-John Diagnostic Test for Fundamental Processes in Arithmetic was administered to seven pupils individually. Six of the pupils were requested to work the examples in only one of the four processes; the seventh pupil worked the examples under two processes at two separate sittings. As the pupils took the test, they were asked to work out loud and to tell how they secured their answers, in the manner prescribed by the authors of the test. At the close of this testing, therefore, the writer had eight test papers, two in each of the four simple processes, together with his notes revealing various habits and methods of work used by the pupils. The pupils' test papers with the answers and calculations were carefully mimeographed, the mimeographed papers being made to resemble as closely as possible the children's test papers with respect to the exact placement of the figures in the children's calculations and matters of a similar nature.

Forty teachers in the writer's classes in diagnostic and remedial instruction, composed of both school principals and classroom teachers, were given copies of the eight mimeographed test papers and requested to mark them on the percentage basis. Since the examples

under the four processes of addition, subtraction, multiplication, and division numbered 46, 44, 44, and 42 examples, respectively, it was agreed that the addition test should be graded on the basis of two and one-sixth credits for each correct example; the subtraction and multiplication tests, on the basis of two and one-fourth credits; and the division test, on the basis of two and one-third credits for each example correct. This procedure made it possible to give maximum scores varying from 98 to 100 per cent. The writer explained to the group of teachers that later on they would be given information

TABLE I
AVERAGE SCORES GIVEN EIGHT ARITHMETIC TEST PAPERS
BY FORTY TEACHERS BEFORE AND AFTER BEING GIVEN
INFORMATION CONCERNING THOUGHT PROCESSES EX-
HIBITED BY PUPILS IN WORKING THE EXAMPLES

Test Paper	First Scoring	Second Scoring
1 (addition).....	87.5	70.8
2 (addition).....	86.7	73.4
3 (subtraction).....	62.5	57.9
4 (subtraction).....	69.7	60.0
5 (multiplication).....	76.3	74.8
6 (multiplication).....	83.4	80.1
7 (division).....	62.4	60.3
8 (division).....	38.0	36.5
Average.....	70.8	64.2

concerning the exact manner in which each pupil had worked the examples and that they would be requested to mark the papers a second time on the basis of the additional information. If they then felt that the knowledge of the pupils' habits of work warranted a change in the original scores, they were privileged to raise or lower the marks as they saw fit.

The average scores given the eight papers by the forty teachers at the first and the second scorings appear in Table I. It will be noted that the teachers gave the first test paper in addition an average score of 87.5 per cent but that, after they had studied the manner in which the pupil had worked the examples, they felt the paper was not worth more than 70.8 per cent. It is to be observed further that the average score given the eight papers on the basis of the children's

calculations alone was 70.8 per cent, while the average score given on the basis of both the calculations and the method of arriving at the answers was 64.2 per cent. In other words, the method of solution made a difference of 6.6 in the average percentage awarded. In the case of the work of one pupil this difference in percentages amounted to as much as 16.7. Because of the fact that in multiplication and division the pupils were less likely to secure correct answers when they used improper methods of work, less change in the percentages was made in the rescoring of papers involving these two processes.

A moment's reflection on the methods of marking school work reveals a decided inconsistency between the objectives in a school subject, such as arithmetic, and the basis used in marking. Because of the recent stress on objective measurement, marks are given largely on answers—whether these are right or wrong. On the other hand, when a teacher is attempting to fix in the pupil's mind the simple number combinations or those involving the higher decades, he is much concerned with the pupil's methods of arriving at the answers. He realizes that the objectives have not been reached if the pupil counts or employs a roundabout procedure. Therefore, when a teacher has unquestionable evidence from a pupil's methods of work that the pupil does not know the combinations (and these are included in the objectives), it would seem that the marking should take some account of this fact. The writer noted, however, with no small amount of interest that a few teachers appeared to believe that their only concern should be that the pupil in some manner arrive at the correct answer to an example. To be sure, some teachers seemingly were as much concerned with the child's method as with his answer, if not more so. One teacher wrote: "According to the footnote on the mimeographed test paper, in solving certain examples, the pupil wrote the new number above the one in the minuend from which the 1 was subtracted. I have marked these incorrect even though the answers are right." Even in the first scoring this teacher apparently took method into account. It would have been interesting to request the teachers first to mark the papers when they knew only the answers given by the children and then to permit them to rescore the solutions to the examples after they had had an opportunity to see

copies of the children's test papers and the pupils' verbal statements indicating specifically the methods of solution. If this procedure had been followed, the effect of the children's method on the scores given would have been more evident than it is in the data given in Table I.

The results presented in this table raise several questions: What, after all, does a teacher's mark mean? Which is more important, the answer or the method? Should the method of work influence marks? To what extent does a mark reflect real ability? Is a mark based only on the results of a pupil's calculations of much value either to the pupil or to the teacher? Further discussion, especially on one phase of the last question, appears in the following paragraphs.

DETERMINING NEEDS BY EXAMINATION OF TEST PAPERS

A customary method of determining the types and the prevalence of pupils' errors in arithmetic is to make inferences of the causes of the errors found from an examination of the pupils' test papers. This method has always impressed the writer as of questionable validity and of only slight value to a teacher. With the purpose of determining, in some measure at least, the accuracy with which teachers can diagnose the exact causes of pupils' errors in arithmetic, the writer requested the forty teachers to examine carefully the errors made by the pupils on the eight mimeographed test papers and to designate what they surmised were the thought processes of each pupil in the case of each error.

The results from this part of the investigation showed that the causes of most of the errors in division were correctly diagnosed by the teachers, inasmuch as most of the mistakes of the pupils resulted from such easily observable practices as the following: omitting a digit in the quotient; failing to use all the divisor, for example, using only the 1 in the divisor 16; and using a remainder larger than the divisor. Consequently, no data will be presented for the process of division. In connection with the other three processes, however, the teachers were less successful in their attempts at diagnosis, as is shown in Table II. It will be observed that the inferences of the teachers regarding the causes of the errors found in Test Paper 1 (addition) were correct in only 33 per cent of the cases. The average number of correct inferences for all the test papers did not exceed 30

per cent; that is, an average of less than one in three of the errors made by the pupils were correctly diagnosed by the teachers.

The facts given in the table and the comments in the preceding paragraph indicate that the ease with which diagnosis can be made in the four fundamental processes, so far as the teachers and the test papers here considered are concerned, is apparently in the following diminishing order: division (long), subtraction, addition, and multiplication. The reason for this situation is apparent: the more calculations the child must carry on mentally without writing the corresponding figures on paper, the less possibility a teacher has to make correct inferences as to the exact causes of errors.

TABLE II
PERCENTAGES OF CORRECT INFERENCES MADE BY FORTY
TEACHERS AS TO EXACT CAUSES OF ERRORS MADE
BY PUPILS ON SIX ARITHMETIC TEST PAPERS

Test Paper	Number of Errors	Percentage of Correct Inferences
1 (addition)	7	33
2 (addition)	8	24
3 (subtraction)	29	31
4 (subtraction)	20	55
5 (multiplication)	13	22
6 (multiplication)	10	13
Average	14.5	29.7

Inasmuch as the two children working with division worked all the examples by the long-division process (the test contains only a small number of simple number combinations), most of the calculations were indicated on the papers. Had short division been used with all the single-digit divisors, diagnosis would have been considerably more difficult.

In multiplication the child not only multiplies but generally carries some number in the same operation. Consequently, one does not know in which of the two phases of the operation, multiplication or carrying, the child has been at fault.

In the process of addition, as the number of addends or columns increases, diagnosis becomes increasingly difficult since the results of a fewer number of the pupil's mental processes are indicated on his

test paper. Had the Buswell-John test contained a large number of complex addition examples, it is likely that the determination of causes of errors would have been more difficult in addition than in multiplication.¹

In subtraction the pupil places figures on his paper after each mental operation, except borrowing. Inasmuch as borrowing never involves anything but the borrowing of 1, this phase of the operation is necessarily simple. Because in subtraction a pupil performs a smaller number of consecutive mental operations in a given instance before he records the result as a figure on his paper, diagnosis on the basis of the pupil's calculations alone is ordinarily less difficult in this process than in addition, multiplication, or short division.

The results presented in Table II concern errors ranging in number from 7 to 29 on the six papers. These errors do not include misplacement of figures (such as failure to place correctly the figures of partial products), errors caused entirely by poorly written figures, or errors resulting from calculations performed correctly with the figures the pupils placed on their papers. In other words, only those errors were counted in which pupils used incorrect mental processes.

By way of illustration, in the example at the left neither the *misplacement of the partial product 1,350 nor the correct addition of the partial products resulting in incorrect figures* in the answer were counted. In the six papers for which data are given, only three instances of misplaced rows of figures occurred and only one error that could be attributed entirely to illegible figures.

As an illustration of the task of diagnosis attempted by these teachers, some of the examples in multiplication in Test Paper 5 are given below, together with the corresponding mental operations of the pupil as revealed by the verbal statements made while the calculations were being performed. Dots indicate that the child was counting.

EXAMPLE 1

$$\begin{array}{r} 43 \\ 8 \\ \hline 384 \end{array}$$
 (1) 8 times 3 are 24.
 (2) 8 times 4 are 36 and 2 are 38.

¹ Inasmuch as the Buswell-John test represents a well-selected group of examples of varying difficulty in the four simple processes, the examples it contains are probably fairly typical of those the school child is called on to solve.

EXAMPLE 2

76097 (1) 8 times 7 are 56.

$$\begin{array}{r} 8 \\ \hline 608676 \end{array}$$

(2) 8 times 9 are 62 67.

(3) 8 times 6 are 48.

(4) 8 times 7 are 56, 58, 60 [pupil counted by two's].

EXAMPLE 3

6 (1) 0 times 6 are 6.

$$\begin{array}{r} 0 \\ \hline 6 \end{array}$$

EXAMPLE 4

8046 (1) Seven 6's is 42.

$$\begin{array}{r} 97 \\ \hline 56302 \end{array}$$

(2) Seven 4's is 28 and 2 makes 30 [apparently thought of the 2 instead of the 4 in the 42].

$$\begin{array}{r} 72394 \\ \hline 780242 \end{array}$$

(3) 3.

(4) Seven 8's is 56.

(5) Nine 6's is 54.

(6) Nine 4's is 36 and 5 is 39 [writes 9, then 3].

(7) Nine 8's is 72.

(8) 2 [adding].

(9) 4.

(10) 9 and 3 makes 12

(11) 6 and 3 are 9 and 1 is 10

(12) 5 and 2 are 7 and 1 is 8

(13) 7.

EXAMPLE 5

7205 (1) Six 5's are 30.

$$\begin{array}{r} 906 \\ \hline 43230 \end{array}$$

(2) Six 2's are 12.

$$\begin{array}{r} 0000 \\ \hline 64845 \end{array}$$

(3) Six 7's are 42 and 1 is 43.

6528730 (4) 0, 0, 0, 0.

(5) Nine 5's are 45.

(6) Nine 2's are 18.

(7) Nine 7's are 63 and 1 is 64.

(8) 0 [adding].

(9) 3.

(10) 5 and 2 are 7.

(11) 4 and 3 makes 8.

(12) 8 12.

(13) 4 and 1 makes 5.

(14) 6.

In Example 1 many teachers thought the pupil had made a mistake in carrying. One teacher interpreted the mistake as follows: "I think that he might have said 8×3 are 24 and put down the 4; then carrying the 2 he thought 4 and 2 are 6 and multiplied 8 and 4, getting 32 and adding 6 to get 38."

In Example 2 some teachers thought the pupil merely "slipped" and carried 6 rather than 7. It was interesting to note how many of the teachers attributed errors to a "slip" or "carelessness." Such a diagnosis was practically valueless since every error made was the result of a definite mode of thinking on the part of the child. "Confusion" and "guessing" were other terms used, these terms merely indicating that the causes of the difficulties were not known. One teacher, in analyzing the cause of the mistake in Example 2, stated: "He probably thought correctly but was looking at the next number, which was a 6, and consequently put down 6 instead of 7."

In Example 3 many teachers thought the pupil added, whereas, in carrying on the operation, he definitely said "times." While the pupil may have *thought* addition even though he verbally referred to multiplication, it is more likely that he had no clear conception of the operation of zero.

In Example 4 several teachers thought the pupil must have been deficient in the "table of 4's" since he made two errors involving the multiplication of 4.

In Example 5 most of the teachers thought the pupil had carried in the addition when no carrying was necessary.

The character of the teachers' inferences indicates that teachers in general need practice in diagnosis of difficulties in arithmetic. In explaining the figures in Example 4, one teacher suggested that, in securing the first partial product, the pupil thought " 7×4 is 26 plus 4 is 30" and that, in securing the second partial product, he thought " 9×4 is 34 and 5 is 39." After a teacher has had much practice studying children as they solve their arithmetic examples, he will realize that pupils are not likely to respond with 26 to 7×4 nor with 34 to 9×4 but that they are more likely to confuse combinations, as was done in Example 1 when the pupil thought 36 for the combination 8×4 . Since 36 is the answer to 9×4 , the pupil is likely to con-

fuse the products of 8×4 and 9×4 . However, 26 and 34 do not represent answers to any of the simple multiplication combinations.

$$\begin{array}{r} 94530 \\ 600 \\ \hline 5771800 \end{array}$$

The solution of the example in multiplication given at the left illustrates the difficulty a teacher has in attempting a diagnosis from the calculations alone. In solving this example, the pupil said:

- (1) 0 times 0 is 0.
- (2) 0 times 0 is 0.
- (3) 6 times 3 is 18.
- (4) 6 times 5 is 30 plus 1 is 31.
- (5) 6 times 4 is 24 and 3 is 27.
- (6) 6 times 9 is 54 57.

The explanation of the two zeros offered by the teachers invariably was, "He forgot to bring down a zero." The child's actual method of solving this example reveals the need of some basic understandings in compound multiplication which "He forgot to bring down a zero" does not imply.

That the causes of certain errors were easily diagnosed goes without saying. For instance, in the examples $59 - 2 = 37$ and $86 - 4 = 42$, most of the teachers rightly surmised that the pupil subtracted the number from both members of the minuend. Again, in the addition

example $\begin{array}{r} 532 \\ 87 \\ \hline 629 \end{array}$ they correctly inferred that the pupil had carried when

carrying was unnecessary. On the other hand, in an example such as that given at the left, it is practically impossible for a teacher

to discover how the pupil made the calculations merely by studying his test paper.

$$\begin{array}{r} 66 \\ 989 \\ 896 \\ \hline 467 \\ 2328 \end{array}$$

SUMMARY

The data presented point to the fact that teachers, rightly so or not, permit pupils' methods of solving arithmetic examples to influence the marks given. The average percentage score given eight test papers by forty teachers was lowered by 6.6 after the teachers had been made aware of the pupils' methods of work.

Though in long division the teachers involved in this study were able to diagnose the exact causes of a pupil's errors with a high degree of accuracy, in addition, subtraction, and multiplication their success in diagnosis was limited. Had the multiplication difficulties in the division examples been greater, the diagnosis might not have been made easily.

The percentages of correct inferences made by forty teachers with respect to the causes of the mistakes appearing on six test papers (two papers for each of the processes of addition, subtraction, and multiplication) ranged from 13 to 55. The average of all the teachers on the six papers was approximately 30 per cent; that is, less than one error out of three was correctly diagnosed.

VOCATIONAL MISPLACEMENTS AMONG ELEMENTARY-SCHOOL TEACHERS

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INTRODUCTION

The purpose of the study reported in this article was to determine the extent to which elementary-school teachers in Oklahoma teach in the special fields for which they prepared while in college. The four special fields, or teaching occupations, represented were the kindergarten-primary grades, intermediate grades, upper grades, and one- and two-teacher schools. The investigation is concerned with the 3,955 elementary-school teachers in Oklahoma who answered questionnaires sent out by the National Survey of the Education of Teachers in 1931. The statistical work was done by the Statistical Tabulation Bureau of Washington, D.C. Trends were studied in the following types of school systems: the open country, villages with populations of less than 2,500, cities with populations of 2,500-9,999, cities with populations of 10,000-99,999, and cities with populations of over 100,000.

SPECIFIC OCCUPATIONS REPRESENTED

Table I shows the grades taught by the teachers in the different school systems. It is noteworthy that only 64 of the 3,955 elementary-school teachers failed to indicate that their work was in one or another of the four definite teaching occupations represented. These vocations represent the teaching activities with which elementary education is concerned.

A summary of the ranks of the four teaching occupations in the different school systems is given in Table II. Among the communities of various sizes there is little fluctuation in the rank of intermediate-grade teaching. While teaching in one- and two-teacher schools is practically nonexistent in school systems other than those in the open country, its importance there gives it first rank in the state at large. The tendency of upper-grade teaching to rank low is

probably influenced by the absence of the records of junior high school teachers; the latter type of teaching was not considered in this study. Kindergarten-primary work is a specialized type of teaching fostered by the large school units.

TABLE I

DISTRIBUTION, ACCORDING TO GRADES TAUGHT, OF 3,955 ELEMENTARY-SCHOOL TEACHERS IN OKLAHOMA COMMUNITIES OF VARIOUS SIZES

GRADES TAUGHT	TEACHERS IN COMMUNITIES WITH POPULATIONS OF—												ALL TEACHERS	
	Open Country		Less than 2,500		2,500- 9,999		10,000- 99,999		100,000 or More		Location Not Given			
	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent
One- and two-teacher schools	1,231	72.4	30	3.5	1	0.2	1	0.2	0	0.0	6	24.0	1,269	32.1
Kindergarten-prim- ary grades	108	6.3	223	26.0	177	35.6	139	34.2	161	35.4	5	20.0	816	20.6
Intermediate grades	203	11.9	374	43.4	206	41.3	136	38.3	153	33.0	7	28.0	1,099	27.8
Upper elementary grades	158	9.3	227	26.4	104	20.9	92	22.6	120	25.9	6	24.0	707	17.9
Grade not indicated	2	0.1	6	0.7	10	2.0	19	4.7	26	5.7	1	4.0	61	1.6
All grades	1,702	100.0	860	100.0	498	100.0	407	100.0	463	100.0	25	100.0	3,955	100.0

TABLE II

RANKS OF GRADES IN OKLAHOMA SCHOOL SYSTEMS ACCORDING TO NUMBER OF TEACHERS IN EACH

Population of Community	One- and Two-Teacher Schools	Kindergarten-primary Grades	Intermediate Grades	Upper Elementary Grades
Open country . . .	1	4	2	3
Less than 2,500	4	3	1	2
2,500-9,999	4	2	1	3
10,000-99,999	4	2	1	3
100,000 or more . . .	..	1	2	3
All groups . . .	1	3	2	4

FIELD OF TRAINING AND GRADES TAUGHT

Table III shows the special fields in which the 3,955 elementary-school teachers received their training. It is obvious that in this large group of elementary-school teachers are many instructors who were especially prepared for secondary-school teaching, teaching at

higher levels, or for some other type of work far removed from teaching in the elementary school.

Table III, when compared with Table I, displays some interesting and significant discrepancies. Although 72.4 per cent of the teachers in the open country are in one- and two-teacher schools, only 52 per cent of these teachers prepared for teaching of that type. Twenty per cent of these teachers are, then, misplaced. Again, twice as many teachers in the open country prepared for kindergarten-primary

TABLE III

DISTRIBUTION, ACCORDING TO FIELD OF TRAINING, OF 3,955 ELEMENTARY-SCHOOL TEACHERS IN OKLAHOMA COMMUNITIES OF VARIOUS SIZES

GRADES TAUGHT	TEACHERS IN COMMUNITIES WITH POPULATIONS OF—												ALL TEACHERS	
	Open Country		Less than 2,500		2,500-9,999		10,000-99,999		100,000 or More		Location Not Given			
	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent
One- and two-teacher schools	884	52.0	34	4.0	4	0.8	1	0.2	0	0.0	1	4.0	924	23.4
Kindergarten-primary grades	228	13.4	235	27.4	179	35.0	133	32.7	161	34.8	8	32.0	944	23.8
Intermediate grades	305	17.9	313	36.4	169	33.9	132	32.4	114	24.6	10	40.0	1,043	26.4
Upper elementary grades	158	9.3	160	18.6	67	13.5	66	16.2	78	16.8	2	8.0	531	13.4
Junior high school	57	3.3	51	5.9	25	5.1	19	4.7	37	8.0	1	4.0	190	4.8
Senior high school	59	3.5	57	6.6	42	8.4	27	6.7	42	9.1	2	8.0	229	5.8
Junior college	4	0.2	1	0.1	1	0.2	1	0.2	1	0.2	0	0.0	8	0.2
Other	5	0.3	3	0.3	3	0.6	10	2.5	5	1.1	0	0.0	26	0.7
Grade not indicated	2	0.1	6	0.7	8	1.6	18	4.4	25	5.4	1	4.0	60	1.5
All grades	1,702	100.0	860	100.0	498	100.0	407	100.0	463	100.0	25	100.0	3,055	100.0

work as finally engaged in work of that type. Only 203 teachers of a total of 305 who prepared for teaching in the intermediate grades secured positions in the special field in which they were trained; the others are probably teaching in one- and two-teacher schools and furnish fine examples of vocational misfits occasioned by a lack of telic development in the state program of teacher training. One hundred and twenty-five of the teachers in one- and two-teacher schools prepared to teach in the junior high school, the senior high school, the junior college, or in other positions. These teachers finally accepted positions in the open country and are probably teaching all the elementary-school grades. Conditions are best in the upper grades so far as the teaching placements in the open country are concerned.

In general, conditions are better in the villages with populations of less than 2,500 than in the open country, but the improvement is only relative. Thirty-six and four-tenths per cent of the teachers in schools in these communities received special training in terms of the intermediate grades, but 43.4 per cent found an economic haven there. Similarly, about 8 per cent of the upper-grade teachers specialized in fields of training not in agreement with their vocational destination. As is the case in the open country, in the villages are found many misplaced teachers who prepared for positions in the junior high schools, senior high schools, junior colleges, or other work and who are probably awaiting an opportunity to engage in their preferred and specialized lines of teaching. Conditions are worse in the case of these misplaced teachers of higher levels than they are in the case of the same vocationally prepared group in the open country; for these teachers in the villages who are now teaching in elementary schools comprise 12.9 per cent of the entire village group of teachers. If the percentages of teachers who are located in specific fields are subtracted from the percentages who prepared for that specific work, or vice versa, the following results are secured in the case of the village teachers: Twelve and nine-tenths per cent of the group prepared for secondary schools or other work and are obviously vocationally misplaced. The percentage of teachers who prepared for kindergarten-primary teaching exceeds the percentage who secured that type of work by 1.4, while the percentage who trained for work in one- and two-teacher schools exceeds the percentage employed in such schools by 0.5. Thus, a total of 14.8 per cent of the teachers of these types in villages undoubtedly are not teaching their specialties. On the other hand, the percentage of intermediate-grade teachers exceeds the percentage trained for this work by 7. The percentage of upper-grade teachers exceeds the percentage of teachers specifically trained for this work by 7.8. If the excess of teachers trained for higher schools and kindergarten-primary work are engaged in the intermediate and upper grades, then the exact percentage of occupational displacement of the entire village group is 14.8.

Similarly, in the case of the teachers in the open country, it cannot be definitely proved that more than 20.4 per cent of the group are attempting to show their teaching versatility in fields other than

those in which they were trained. One must keep in mind, however, that the percentages of occupants and trainees in each teaching occupation might correspond perfectly, and yet there might be considerable misplacement because the numbers do not take into account the misplacement of individuals. Extending a great deal of courtesy, perhaps, to the true situation, one inexorably must conclude that, as is shown in Table IV, 14.8 per cent of the village teachers are teaching in fields in which they are not trained.

TABLE IV

DIFFERENCES BETWEEN PERCENTAGES OF TEACHERS TRAINED FOR CERTAIN
TEACHING FIELDS AND PERCENTAGES OF TEACHERS ENGAGED IN
TEACHING IN FIELD OF TRAINING

POPULATION OF COMMUNITY	ONE- AND TWO- ROOM SCHOOLS		KINDERGARTEN- PRIMARY GRADES		INTERMEDIATE GRADES		UPPER ELEMEN- TARY GRADES		PERCENT- AGE TRAINED FOR LEVELS OTHER THAN ELE- MENTARY- SCHOOL GRADES
	Teach- ing Field	Field of Train- ing	Teach- ing Field	Field of Train- ing	Teach- ing Field	Field of Train- ing	Teach- ing Field	Field of Train- ing	
Open country..	20.4	...	...	7.1	...	6.0	0.0	0.0	7.3
Less than 2,500.	...	0.5	...	1.4	7.0	...	7.8	...	13.0
2,500-9,999. . .	...	0.6	...	0.3	7.4	...	7.4	...	14.3
10,000-99,999. .	0.0	0.0	...	1.5	...	5.9	...	6.4	14.0
100,000 or more	...	...	0.6	...	8.4	...	9.1	...	18.4
Total	8.7	...	...	3.2	1.4	...	4.5	...	11.5

The data for cities with 2,500-9,999 inhabitants show conditions just as bad as those in the villages. Perhaps in their anxiety to secure city positions, entirely too many candidates whose training was in one of the specialized branches of secondary-school work have consented to assignments to elementary-school tasks. In the smaller cities conditions are also bad in the intermediate and upper elementary grades, where in each case more than 7 per cent of the teachers are teaching in fields other than those of their specialization. Considered as a whole, 14.8 per cent of the 498 teachers in cities with populations of 2,500-9,999 are vocationally misplaced.

In cities with populations of 10,000-99,999 we find little improvement over the smaller cities. In these larger cities is also found a large proportion of teachers trained for higher levels who accept posi-

tions for which they have not had adequate special training. Fourteen per cent of the group are not elementary-school teachers as far as their special training is concerned. Six and four-tenths per cent of the teachers in the upper grades, 5.9 per cent of the teachers in the intermediate grades, and 1.5 per cent of the kindergarten-primary teachers are not engaged in teaching of the type for which they were trained.

Cities with populations of 100,000 or more show a remarkable propensity for employing teachers trained for secondary schools and other work to teach in elementary schools, 18.4 per cent of the teachers in this group being misplaced in this obvious fashion. This misplacement is undoubtedly the worst type of misplacement because of the extremes in the types of teaching involved and the extremes in the types of training received. The high-school instructor, for example, specializes in a teaching major or subject, while the elementary-school teacher specializes in a teaching grade or grades. In brief, the two teaching occupations are far apart in their comparative curriculums. These large cities also lead in the misplacing of specifically prepared intermediate-grade teachers, the percentage of misplacement being 8.4. Eighteen and one-tenth per cent of the teachers in the largest cities of the state are vocationally misplaced. In other words, more than one out of every six are not teaching in their fields of training.

In the state at large 453 teachers who trained for teaching in secondary schools or for other work are employed in elementary schools. The chances that this teaching is efficient, especially at the beginning of a teacher's career, are practically nil. The state could remedy this particular situation by refusing to allow the holders of secondary-school certificates to teach in elementary schools. More of these educated wanderers are found in the largest cities than elsewhere, although each type of school system has enough of them. One marvels at the economic waste involved in training teachers for specialized occupations and then placing them elsewhere. Of course, many of these misplaced teachers may be doing superior teaching, especially if they have had much experience in their present work, but this consideration falls far short of solving the difficulty.

SUMMARY AND CONCLUSION

When the data which show the percentage of teachers in each type of school system who are not teaching in their special fields of training are summarized, the following results are disclosed: in the open country, 20.4 per cent; in villages with populations of less than 2,500, 14.8 per cent; in cities with populations of 2,500-9,999, 14.8 per cent; in cities with populations of 10,000-99,999, 13.8 per cent; in cities with populations of more than 100,000, 18.1 per cent; in the state at large, 14.6 per cent.

The conclusion is that, in assigning a teacher, school officials in both the open country and the largest cities show a distinct tendency to ignore the teacher's field of training. The efficiency of the assignment of teachers by superintendents in the largest cities seems to be on a par with that of district boards of education in the open country. The cities of medium size seem to take the most care to secure teachers with appropriate training, but the advantage which they exhibit over the smallest cities and villages in this respect is negligible. In the state as a whole comparatively little consideration is given the appropriateness of a candidate's training for the teaching position which he is to fill.

A NEW TECHNIQUE FOR THE STUDY OF ORAL-LANGUAGE ACTIVITIES

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The development and the evaluation of tools for the collection and interpretation of educational data are among the fundamentals of scientific method. It may not be far from the truth to say that the greatest contributions which have been made to the scientific method and literature of education are to be found in the appraisal and refinement of research techniques rather than in the productive results of their application. This statement appears to be particularly true in the field of oral English.

Three major groups should be interested in techniques for the study and analysis of oral-language activities, namely, phoneticians, psychologists, and educators. The phoneticians are chiefly concerned with the nature and the production of speech sounds. The problems of linguistic phenomena, speech defects, and social behavior as revealed by speech habits interest the psychologist. While the educator is interested, in a way, in each of these general aspects of language, he is primarily concerned with the collection and the selection of specific units of instructional material which may be useful in the development of adequate language skills, with the evaluation of methods of instruction, and with the development of devices for the appraisal of pupil learning. It seems apparent, therefore, that these three large and significant groups of workers are likely to profit from the development of more adequate research techniques in this important field.

For the past fifteen years workers in the English curriculum have looked on the collection of errors in written and oral composition as a fruitful source of instructional material in language. Evidence now available makes it apparent, however, that the significant work of

such leaders as Charters, Miller, Wilson, Randolph, and others must have been definitely handicapped by their inability to secure a complete and verbatim record of the total oral-language situation under observation. With the possible exception of Randolph, who used stenographic records, the earlier observers focused their attention almost wholly on the errors made by the subjects, and there is little likelihood that the records of the errors were entirely correct. In fact, the accuracy of such reports has been questioned by the investigators as well as by other research workers. Lyman points out that no other type of investigation reported in his monograph "is as loose, inaccurate, and unreliable as the techniques employed in 'collecting' errors in oral English."¹

The reliability of the results of recording errors in the oral use of language depends on the accuracy and the extent of the record taken by the observers. Anyone who has analyzed shorthand or longhand reports of oral activities must realize that such records do not give entirely true pictures of the situation. In addition to the fact that the observer may not hear the activities accurately, there is usually a certain amount of unconscious or unintentional editing and correcting on the part of the recorder. For business purposes and other practical purposes, this unintentional editing may have its advantages; for language-research purposes, it is a distinct difficulty and handicap. Obviously, the record of the language activities and situations must be accurate, must be complete, and must be transcribed without any editorial juggling. Only when such care has been taken can language skills and usages be evaluated in terms of their true social importance. For, after all, it is not merely the determination of the frequencies of certain language errors which should interest the curriculum-maker, he should be much more concerned with establishing the relation of these errors to the mastery of language in all its aspects. The language curriculum must be constructive as well as remedial.

The realization of the importance of this phase of the problem and our present helplessness in making any significant attack on the

¹ R. L. Lyman, *Summary of Investigations Relating to Grammar, Language, and Composition*, p. 131. Supplementary Educational Monographs, No. 36. Chicago: Department of Education, University of Chicago, 1929.

many constructive problems of the language curriculum have united to stimulate the development of devices capable of securing an objective, verbatim record of all types of language activities. It is the purpose of this article to present a brief description of some of this apparatus and to submit data resulting from a critical appraisal of this procedure and certain other techniques used in the study of oral language.

As an initial step in the development of the language-recording apparatus used in this study, certain criteria were set up. In the first place, the apparatus must furnish a record so clear and understandable that a perfect transcription of the record could be made and proofread. In the second place, the apparatus must be portable. It must be easily moved from place to place, or, better, it must lend itself to extension by means of wires, telephone circuits, or even radio antennae. In the third place, it must produce a continuous and a complete record. In the fourth place, it must be possible for the equipment to be used in the classroom without introducing any unduly artificial conditions. The use of the microphone and amplifier equipment and the motion-picture units which are used by the producers of sound motion pictures introduce such an artificial condition into the classroom that it would be impractical for language-research purposes. Finally, the apparatus must be reasonably cheap to build and economical to operate.

An examination of the available commercial devices in the light of these criteria, at the time this work was begun, led to the conclusion that most of the equipment must be made from the beginning. While certain commercial concerns, particularly those interested in sound motion pictures, were working on the problem, much of the material which had been developed up to that time was too expensive and cumbersome to be used in this work.¹ Naturally, the dictating machine, because of its portability and general economy, sug-

¹ Since the development of the Iowa language-recording equipment, our attention has been called to a number of commercial developments designed to accomplish a similar purpose. Most of these new and somewhat expensive devices are equipped with microphone units which are not sufficiently sensitive for wide-range use. The majority of these new developments also are planned to secure a permanent record suitable for rebroadcasting. Since the purposes of research do not involve this aspect of the problem, the wax record with its possibilities for continuous use has distinct advantages.

gested itself for use in the preliminary experiments. Through the co-operation of engineers in the laboratories of the Dictaphone Corporation, we secured a laboratory model of a magnetic or electric cutter for use on the Dictaphone transcribing machine. This cutter is fed from a properly balanced amplifying unit. After much experimentation suitable amplifying units and sources of power supply were developed.¹

In its present form the recording apparatus consists of a battery of three highly sensitive microphones of the condenser type, a mixing panel containing an audio frequency amplifier, and a separate power amplifier unit with its output feeding into the recording equipment. The recording unit itself consists of a monitor dynamic speaker and two magnetic recorder units mounted on Dictaphone, Type B, transcribing machines. The recording equipment is permanently installed in the laboratory. The only equipment which must be transported from school to school is the microphone unit and its power supply. In the experiments now going on in the language laboratory, telephone circuits from the University Elementary School bridged through the local telephone office into the laboratory room are being used. The sound records are taken on the standard wax cylinders commonly used for dictation purposes. A continuous record of the oral activities is secured by starting a second recording device shortly before the first has completed a record. The simultaneous recording of the two machines at the beginning and the end of each record provides an overlap which insures the continuity of the transcribed reports.

The major purpose of this investigation involves a comparison of the simultaneous recordings made by the electric recording machine and by twenty-one selected reporters. The fact that previous studies have led to the belief that stenographic reports yield more nearly accurate information than any of the other techniques accounts for *their use here*. However, as an additional safeguard, data were secured also from court reporters, longhand reporters, and phoneticians.

¹ The courteous co-operation of the Thordarson Electric Manufacturing Company, Chicago, and the Dictaphone Corporation, Bridgeport, Connecticut, is gratefully acknowledged here.

Twenty-seven stenographers, recommended by the head of the commercial department of the University of Iowa, were tried out in the preliminary experiment. These shorthand reporters were selected on the basis of their training, experience, and past achievement. They were then tested on their ability to transcribe Dictaphone Secretarial Record Number 5, which is a permanent record of letters of five types dictated at the rate of one hundred words a minute. Of this group of twenty-seven stenographers, only nine met the requirements. Six of the nine reporters are private secretaries in various departments on the University campus. The other three had had secretarial experience.

Although a special effort was made to secure a larger number of certified court reporters, only three were available for this investigation. Each court reporter informed the investigator that any school-room or laboratory situation would interfere with the usual speed and accuracy of the reporter because of the nature of the child's voice and the distance of the child from the reporter. Six longhand reporters were used in the experiment. They were graduate students and part-time research workers in the Child Welfare Research Station at the University of Iowa. They had had more than one year of experience in recording in the preschool laboratory. Three phoneticians were selected for this investigation by the instructor of a graduate class in phonetics. The phoneticians were chosen on the bases of previous experience in recording and demonstrated ability in the regular class examinations. It is to be regretted that it was impossible to secure the services of any stenotype operators. Only two certified stenotypists were available in the state. At the time this experiment was going on, it was impossible to make arrangements to secure their assistance. Accordingly, this phase of the experiment had to be postponed.

Since the situation was distinctly experimental, it was necessary to have some common experience on which the pupils studied could draw in their oral-language production. After considerable study it was decided that possibly the best means of stimulating the desired language activity was to show the subjects a suitable motion-picture film. Two short films entitled "Our Pets" and "Bobby's Bad Molar" were finally selected. Not only are these films timely as to subject

matter and suitable for use throughout the year, but they also appeal strongly to children.

Groups of ten pupils were shown the motion-picture film. The children were then taken into the experimental room one at a time, and in the presence of the stenographers were asked to tell the story of the picture to the investigators. The room used for this purpose was equipped with a rug for the floor and several sheets of celotex and burlap curtains for the walls in order that the effects of reverberation might be reduced. The microphone was concealed behind the burlap curtains and the distance between the microphone and the pupil was almost exactly the same as the distance between the reporters and the pupil. Eighty-three pupils in the fourth, fifth, and sixth grades of the University Elementary School were used in the investigation. Forty-eight of these same pupils gave a second composition. Thus, a total of 131 compositions were recorded. The serious difficulties involved in securing the reporters made it impossible to obtain an extensive sampling of any particular pupil's production. In the actual experiment usually not more than four or five reporters were with a pupil in the laboratory room at any given time. It may be worth mentioning that these children, being members of the University Observational Schools, are not easily disturbed by such situations, since they are accustomed to observation at all times and to experimentation of all kinds.

A competent Dictaphone operator transcribed the electrical recording. The transcriptions were then proofread by the investigator and one other worker in the laboratory. By the use of a stop watch a one-minute sampling of the rate of speaking was made for each pupil. This timing was done by operating the transcribing motor at the same rate of speed as the recording motor. The typewritten copy of the electrical recording was then checked against the typewritten copy of the reporters' records. The records were then analyzed in order to determine the following points: (1) the numbers and the percentages of omitted, substituted, transposed, and added words in the reporters' records; (2) the numbers and the percentages of omitted sounds in the reporters' records; (3) the numbers and the percentages of unintelligible words on the electrical recording; and (4) the nature of the substitutions made by the reporters.

The twenty-one reports used in this investigation furnished a total of 313 different transcripts of oral compositions in the three grades used. The results of this careful cross-check of the transcripts of the various groups of recorders are summarized concisely in Table I. This table shows that the electric-recording machine recorded a total of 40,214 words with such clearness that three proof-readers disagreed on only 99 words. These 40,214 words represented all the 131 oral compositions dictated by the 83 pupils under observation. The machine is, therefore, 99.8 per cent accurate. In other

TABLE I
COMPARISON OF RECORDS OF ORAL-LANGUAGE ACTIVITIES
MADE BY FIVE RECORDING TECHNIQUES

TECHNIQUE	NUMBER OF WORDS IN ORAL COMPOSITIONS	WORDS RECORDED		WORDS ACCURATELY REPORTED		PERCENTAGE OF RECORDED WORDS WHICH WERE ACCURATELY REPORTED
		Number	Per Cent	Number	Per Cent	
Electric recording	40,214	40,214	100.0	40,115	99.8	99.8
Court reporters	11,696	11,071	94.6	9,404	80.4	84.9
Shorthand reporters	52,034	33,479	64.3	27,762	53.4	82.9
Longhand reporters . .	20,402	7,767	38.1	6,519	32.0	83.9
Phoneticians	14,369	2,451	17.1	2,174	15.1	88.7

words, on the basis of a thousand-word unit, only two words out of each thousand words dictated were not perfectly intelligible to three proofreaders. The record of the court reporters is interpreted in a similar way. Of each thousand words dictated by the pupils, these reporters were able to take down only 946, of which 804 were correct. Of each thousand words dictated to the stenographers, 643 were taken down and 534 were correctly recorded. Out of each group of one thousand words dictated, the longhand reporters were able to get 381, of which 320 were correctly recorded. The phoneticians were able to take down only 171 out of each thousand words dictated, of which only 151 were recorded correctly. Roughly, then, of each hundred words of oral composition dictated by these fourth-, fifth-, and sixth-grade pupils to the court reporters, approximately 20 words were incorrectly recorded; that is, the words were omitted,

substituted, or transposed in the process of recording and transcribing. In the case of the group of nine shorthand reporters, of whom four were distinctly superior stenographers, the situation is much more serious. On the average, almost half of their record was in disagreement with the criterion. More than two-thirds of the longhand records and six-sevenths of the phoneticians' records were incorrectly taken or transcribed. It will be noted, however, that the accuracy of the four groups, when based on the amount of dictation actually recorded by each, varied little. On this basis, the phoneticians were slightly more accurate than the shorthand, longhand, or court reporters. For purposes of research in the field of oral language, it is to be doubted if much confidence should be placed in any of these four methods. Surely, if a complete and true picture of the oral-language skills in their relation to each other is to be attained, it must be based on accurate and objective data.

Within the limits of the situations set up for this comparison, the electric recording apparatus proved to be distinctly superior to court reporters, shorthand reporters, longhand reporters, and phoneticians. When compared with the other four techniques used in this study, electric recording has five rather specific advantages:

1. The record may be proofread in situations in which a high degree of recording accuracy is demanded in the report.
2. The physical presence of the reporter in the room is eliminated. The microphone or microphones may be hidden if the situation requires that the apparatus be unseen. Incidentally, children up to the fourth or fifth grade are not very sensitive to the microphone. At least, they apparently are not disturbed as are adults by its presence.
3. The rate of production of speech sounds may be easily determined.

4. An accurate and a complete report of the oral-language activities is assured. Non-verbal language sounds, such as "um . . . uh," are accurately recorded and readily identified.

5. Since the meaning of oral language is determined in part by the voice inflection, the electric recording is a valuable supplement to the written transcript.

Experience with this language-recording apparatus leads to the conclusion that it has opened up a great many possibilities for cur-

ricular investigation in this field. In fact, the possibilities of application of the equipment seem to be limited mainly by one's imagination. It is quite probable that the results obtained by this method of recording may bring about rather complete revisions in the language curriculum. Certainly it will provide the basis for placing the emphasis on the constructive side of language rather than giving the heavy weighting to the error aspects, the natural result of studies based on incomplete samplings of pupils' records. It will permit the use of the so-called "error quotient" in oral language, for with this apparatus the investigator can secure a complete, accurate, and continuous record of the language activities of each individual child over a long period of time. As some evidence of the possibilities, it may be pointed out that the apparatus is now being used by a group of graduate students engaged in making a complete and detailed study and analysis of the oral-language activities of four distinct groups of young children beginning with the preschool age. Records have been taken from preschool, first-grade, second-grade, and third-grade pupils. The analyses of these records are providing some interesting data concerning the things talked about by children of these ages, the complexity of the sentences used, the extent and the type of vocabulary, the actual language usage, as well as other pictures of basic oral-language skills.

THE LIFE-CERTIFICATE

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One of the problems which occupied the attention of many school men two decades ago was that of the certification of teachers. There were two particular aspects of the problem: first, the duration of the certificate and, second, the basis upon which the certificate should be issued.

In 1919 thirty-eight states were granting life-certificates to teachers, eight on the basis of examinations and thirty on the presentation of credentials issued by recognized institutions of higher learning.¹ In 1926 forty-three states were issuing life-certificates.² The number of states granting certificates on the basis of credentials rather than on the results of examinations also increased. Concerning this point the *Biennial Survey of Education, 1924-1926* says that certain states joined "the rank of those more progressive states which certificate only on the basis of graduation from an accredited high school and professional training on the college level."³

That the desirability of issuing long-term certificates is doubted by some persons is shown by two quotations from publications of the United States Office of Education, one issued in 1927 and the other in 1930:

Life-certificates are still issued by the majority of states, although there is a good deal of agreement among students of the subject and among educationists in general that such certificates should be issued to relatively few and then only after evidence of successful experience. Evidence that this idea has influenced certification regulations is found, however, with a good deal of frequency. Some states issue fewer life-certificates than formerly, and there is a tendency to issue

¹ Katherine M. Cook, *State Laws and Regulations Governing Teachers' Certificates*, pp. 39-198. United States Bureau of Education Bulletin No. 22, 1921.

² Katherine M. Cook, *State Laws and Regulations Governing Teachers' Certificates*, pp. 42-125. United States Bureau of Education Bulletin No. 19, 1927.

³ *Biennial Survey of Education, 1924-1926*, pp. 375-76. United States Bureau of Education Bulletin No. 25, 1928.

probationary certificates which are later validated for long terms or made life-certificates only on evidence of credentials showing continued professional training as well as experience. In one or two instances the continuance of a certificate is dependent on professional credits received within a comparatively recent time, as five years.¹

*There is a tendency in a few localities to abandon altogether the life-certificate.*²

The policy of issuing life-certificates to teachers has been in force long enough to justify asking whether this practice is a sound educational procedure. The purpose of this article is not to answer this question but to present certain data pertinent to a consideration of what has become a rather common practice.

The data here presented were secured from the bulletins of two state teachers' colleges.³ The first institution, the Indiana State Teachers College, graduated its first student in 1872; the other, the Ball State Teachers College, issued its first diploma in 1919. Because of the method of collection, the reliability of the data is above question. Each year forms calling for statements of their training and their occupations were sent by each institution to all alumni and former students. These data were then transferred to cumulative record cards, which provided the materials reported in the bulletins. The record for each alumnus or former student indicates the date of his initial training, his subsequent training, his experience, and the date on which he received his provisional life-certificate or diploma. Before December 1, 1923, diplomas, based on a four-year curriculum, issued by these two institutions were provisional life-certificates entitling the holders to teach in any elementary school or high school in the state. After the holder had had two years of successful teaching experience, these certificates were convertible into life-licenses. At present the provisional life-certificate, based on a two-, three-, or four-year curriculum, is valid for five years and is there-

¹ Katherine M. Cook, *State Laws and Regulations Governing Teachers' Certificates*, p. 28. United States Bureau of Education Bulletin No. 19, 1927.

² *Biennial Survey of Education, 1926-1928*, p. 317. United States Office of Education Bulletin No. 16, 1930.

³ a) *Alumni Register*. Ball State Teachers College Bulletin, Vol. IV, No. 4. Muncie, Indiana: Ball State Teachers College, 1929.

b) *Alumni Register*. Indiana State Teachers College Bulletin, Vol. XXIII, No. 4. Terre Haute, Indiana: Indiana State Teachers College, 1930.

after renewable for life on presentation of evidence of successful experience and professional spirit.

The following provisional certificates were considered in the study here reported: primary certificate for Grades I-IV, inclusive; elementary certificate for Grades IV-VIII, inclusive; special elementary certificate, for the teaching and supervising of special subjects, such as art, music, manual training, and home economics in the elementary school and the first year (Grade IX) of the high school; rural certificate, for all elementary grades in a rural school; junior high school certificate; and senior high school certificate. The training periods required for the first four certificates are two years in length; for the junior high school certificate, three years; and for the senior high school certificates, four years. In addition to those who received provisional certificates, the study also included those graduates who received Bachelor's degrees.

The study considered only those persons who had received provisional life-certificates or Bachelors' degrees, or both, from these two institutions and who were engaged in school work as students or teachers during the school year 1927-28. The specific question studied about each person was: Did he attend an educational institution after receiving a provisional life-certificate or a Bachelor's degree prior to or during the school year 1927-28? The data were grouped in two periods: 1872 to 1918, inclusive, and 1919 to 1927, inclusive.

Life-certificates issued to persons who were graduated during the first period, 1872 to 1918, and who were engaged in school work as students or teachers during 1927-28 numbered 1,139. During the second period these two institutions granted a total of 2,581 provisional life-certificates to former students and alumni who were engaged in school work during the year 1927-28; and Bachelors' degrees were granted to 1,247 graduates who were students or teachers during 1927-28. Because some persons had received more than one provisional certificate, the number of persons involved is somewhat smaller than the number (2,581) of certificates. Fifty-seven graduates who received Bachelors' degrees received no certificates.

Figure 1 gives the number and the percentage of certificate holders and of recipients of Bachelors' degrees who attended some institution after receiving certificates or degrees. As this figure shows, the

percentage of the alumni and former students receiving provisional life-certificates or degrees prior to 1919 who continued their formal training is higher than the corresponding percentages of persons receiving degrees or certificates since 1918. The next highest ranking group is composed of those persons who received provisional life-certificates in the special elementary subjects. The primary group ranks lowest.

Some possible explanations of these differences may be pointed out. A comparatively large percentage of the persons receiving certi-

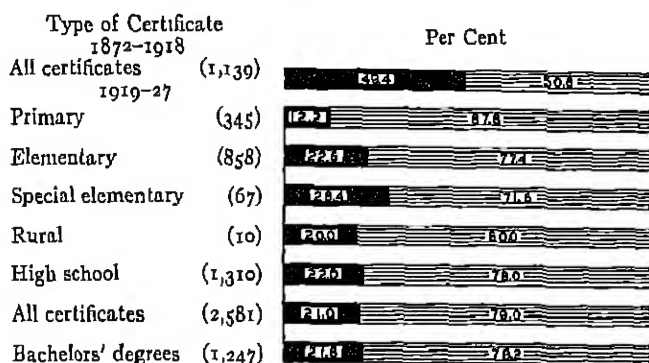


FIG. 1.—Percentages of recipients of provisional life-certificates and Bachelors' degrees who did and did not continue formal training in some institution. Of the 1,247 who received Bachelors' degrees, 1,190 also received high-school certificates (Black bars represent those who continued study in some institution; shaded bars, those who did not.)

cates or degrees in the first period apparently have decided definitely to make teaching a life-career. Others may have taken steps to improve their vocational status because of demands made by their employers. It is significant that a large majority of the early graduates who received further training are now holding administrative positions or are teaching in institutions of higher learning and that most of them are in states other than that in which they received their initial training. The holders of the special elementary certificates who continued their training did so in most instances to prepare to teach and supervise the same special subject in high school. One other fact is revealed by an analysis of the data in the bulletins: a majority of those who attended some institution after having re-

ceived provisional life-certificates did so in order to secure certificates to teach at higher grade levels. Only in a few cases did they take further training for work in the grades covered by the first certificate.

That time operates as a factor in the securing of additional formal training is indicated in Figure 2, which presents the percentage dis-

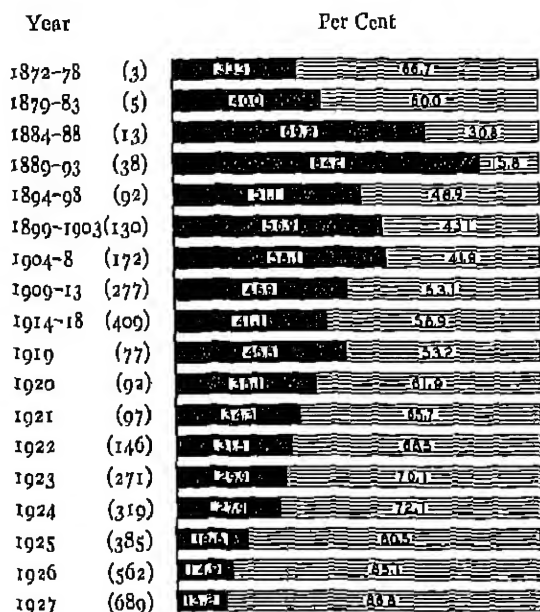


FIG. 2.—Percentages of recipients of provisional life-certificates and Bachelors' degrees from 1872 to 1927 who did and did not continue formal training in some institution. Of the 2,638 certificates and degrees issued after 1918, 57 were Bachelors' degrees issued to persons who did not receive certificates. Of the 57, 27 continued study; 30 did not. (Black bars represent those who continued study in some institution; shaded bars, those who did not.)

tribution of recipients of certificates and degrees according to years. It is worthy of note that 13.2 per cent of those who received provisional life-certificates in 1927 attended some institution during the year 1927-28. One factor that caused some to secure further training was the oversupply of licensed teachers. During periods of oversupply some school boards are more discriminating, and some teachers are thus influenced to continue systematic training beyond that prescribed for the provisional certificate.

IMPLICATIONS OF THE FINDINGS

The data found in these two bulletins and presented in part in the foregoing discussion do not justify definite conclusions, but they suggest certain generalizations:

1. Can the policy of issuing provisional life-certificates, convertible into life-licenses after five years of successful teaching experience, be justified when approximately 70 per cent of those who have received such certificates and who are yet engaged in school work have not received any further formal training? The writer realizes that attending formal classes is not the only method of keeping abreast of the advances made in educational procedures during the last half-century. For example, many of these teachers have attended extension classes on Saturdays. Many, no doubt, receive regularly one or more educational publications. It seems, however, that society is not justified in issuing a life-certificate unless the certificate is predicated on the requirement of later formal study at more or less regular intervals or on the presentation of evidence that the holder of the certificate is keeping pace with advances which are made from time to time in the educational world. This conclusion may imply the existence of a problem of in-service training in states which issue life-licenses.

2. Can a state require additional training of teachers to whom life-certificates have been issued or annul certificates that have been granted? There is ample evidence to justify an affirmative answer. A person who accepts a license from a state impliedly agrees to submit to the tribunals which the state has created for determining his fitness to continue enjoying the privilege granted. "A certificate to teach in the public schools is merely a license granted by the state and is revocable by the state at its pleasure."¹ The power to license persons qualified to teach in the public schools lies "fundamentally in the legislatures. The latter may likewise provide for the revocation of licenses, and in doing so it violates no constitutional right, for a license has none of the elements of a contract, and does not confer an absolute right, but only a personal privilege to be exercised under existing restrictions and such as may thereafter be reasonably im-

¹ *Marrs v Matthews*, 270 S.W. (Tex.) 586.

posed."¹ These decisions are supported by the Supreme Court of the United States. Speaking of licenses in general, this court has said: "The correlative power to revoke or recall a permission is a necessary consequence of the main power. A mere license by a state is always revocable."² If it should be decided that teachers now holding life-certificates must receive additional training to validate their licenses, it is entirely within the power of the legislatures to enact such requirements into statutes.

3. There is a possibility that abolishing life-certificates might prove more harmful than beneficial. However, the problem of licensing should not be confused with that of tenure. What is desired for the schools are well-trained staffs working under the realization that their tenure will be secure as long as they remain adequately prepared to do that which is expected of them by society.

4. It is obvious that this discussion is nothing more than a beginning in the study of the efficiency of teachers in service who hold life-licenses. The information assembled by these two teachers' colleges is a splendid start in the right direction. Further analyses of the record cards would reveal how much time elapsed between the receipt of a provisional life-certificate and further formal study. It would also reveal the proportion of persons who secured additional training to teach on the level of the first certificate.

Has not the time arrived when those who are held responsible for setting up the qualifications for teachers should study critically the results of the common practice of granting life-licenses in order to determine whether the issuing of certificates valid for a lifetime secures better trained teachers than would the granting of certificates valid for limited periods or the granting of provisional life-certificates contingent on further training? Such a study should determine the desirable type of certification and the specifications for additional training.

¹ 24 R.C.L. 613. See also *Stone v. Prills*, 169 Ind. 361, 82 N.E. 792, 14 Ann. Cas. 295.

² *Doyle v. Continental Insurance Company*, 94 U.S. 535.

TRENDS OF MEDICAL AND NURSE SERVICES IN THE PUBLIC SCHOOLS OF NEW YORK STATE

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No objective of education has received more unanimous indorsement than health. In fact, health has usually been placed first in the lists of outcomes desired from school programs, both elementary and secondary. However, the introduction into the public schools of a really sound and comprehensive health program has been slow. Many vested interests have opposed such services by the schools—some groups because of increased costs of education; other groups because they felt the teaching of health was a “fad or frill”; and, not the least, certain medical men or groups because they feared reduced personal incomes. Nevertheless, the temper of the people has been to support generally the introduction and the expansion of health services in the public schools. Educators have sponsored the movement, and they have used various devices to stimulate the growth of health services. New York State has been one of the leaders in providing health services in the schools. Hence, it was decided that a study of the growth of certain health services in that state during the last decade might show interesting trends.

The objects of the inquiry into health services in New York State were threefold: (1) to determine the fiscal trends and the status of medical inspection and nurse service, (2) to indicate the relative efficacy of various devices used by the State Education Department to stimulate the expansion of such services, and (3) to cite tentative programs of school health services for the future.

Legislative enactments relating to medical services.—Until 1913 medical services in the public schools of New York State were more or less dependent on the initiative of each community. The development of the services in the state as a whole was haphazard. However, Article 20-A, which was added to the New York education

law by Law 1913, chapter 627, provides by means of mandatory legislation for the following medical services in the public schools:

Medical inspection shall be provided for all pupils attending the public schools in this state, except in cities . . . of the first class . . . as provided in this article. Medical inspection shall include the services of a trained registered nurse, if one is employed, and shall also include such services as may be rendered as provided herein in examining pupils for the existence of disease or physical defects and in testing the eyes and ears of such pupils.¹

However, only those children are examined who do not bring to the school a certificate from their own physicians certifying as to their susceptibility to disease and their physical defects, if any. Any uncertified children are to be examined, and the law continues:

If it be ascertained upon such test or examination that any of such pupils are inflicted with defective sight or hearing or other physical disability as above described the principal or teacher, having charge of such school, shall notify the parents or other persons with whom such pupils are living, as to the existence of such defects and physical disability. If the parents or guardians are unable or unwilling to provide the necessary relief and treatment for such pupils, such fact shall be reported by the principal or teacher to the medical inspector, whose duty it shall be to provide relief for such pupils.²

This law provides also that the state medical inspector, who is appointed by the commissioner of education to supervise medical inspection in schools, shall be "a competent physician who has been in the actual practice of his profession for a period of at least five years."³ The staff of the state medical inspector grew to comprise specialists in nutrition, oral hygiene, and nursing. Law 1924, chapter 188, of New York State provides for adding to the staff of the State Education Department a specialist in the treatment of eyes and ears.

Additional legislative enactments, effective in 1924 and amended in 1926, provide for financial aid to localities employing a medical inspector or a nurse, or both, in the schools. The State Education Department apportions to each locality half the medical inspector's salary up to a maximum apportionment of \$1,000 and half the salary of the school nurse and health teacher up to a maximum ap-

¹ *Education Law as Amended to July 1, 1932*, sec. 570, p. 188. University of the State of New York Bulletin, No. 1003. Albany, New York: University of the State of New York Press, 1932.

² *Ibid.*, sec. 573, p. 190.

³ *Ibid.*, sec. 577, p. 192.

portionment of \$700. Rural areas are allowed, by New York Laws 1924, chapter 194, to form school-hygiene districts to provide for such health services jointly.

Fiscal trends of unit expenditures for medical services.—On the assumption that there is some positive relation between per capita expenditures for medical services in the schools and the expansion of such services, the fiscal trends for medical inspection and for nurse service and health teachers have been studied. These trends have been divided into two periods. The first period, until 1926, inclusive, represents stimulation by special subsidy. The second period, 1927-31, inclusive, represents a blanket equalization subsidy to localities and stimulation by various devices of propaganda from the State Education Department.

The financial data for this study were secured from fifty-six New York cities and villages which voluntarily supplied the materials from the school accounting records and reports. The sampling of communities for this study, as judged by criteria of wealth and size, was treated statistically by the investigator and shown to be representative. Average daily attendance data were secured from the annual statistical reports issued by the State Education Department. The investigator interviewed officers of the state department. He also interviewed twelve superintendents of schools in cities and villages and made case studies of their school services.

The unit expenditures per pupil in average daily attendance were computed by dividing the total annual expenditure for a particular service by the total number of pupils in average daily attendance for each year. The statistical data on unit expenditures presented in Table I show that, in general, a gradual increment occurred from year to year at the third quartile, the mean, and the first quartile. The data are almost self-explanatory in showing expanding health services.

From the actual observed mean, or average, unit expenditure per pupil in average daily attendance, the trends in expenditures for medical inspection and nurse service have been graphically indicated in Figure 1. The trend lines represented were computed by the method of least squares. This method correlates time with expenditure by the Pearson product-moment formula. The predicted unit

TABLE I
STATISTICAL SUMMARY OF ANNUAL UNIT EXPENDITURES PER PUPIL IN
AVERAGE DAILY ATTENDANCE IN FIFTY-SIX NEW YORK CITIES
AND VILLAGES FROM 1922-31

YEAR	MEDICAL INSPECTION			NURSE SERVICE		
	Thrd Quartile	Arithmetic Mean	First Quartile	Thrd Quartile	Arithmetic Mean	First Quartile
Special-subsidy period:						
1922	\$.53	\$.42	\$.29	\$1.45	\$.87	\$.53
1923 . . . . .	.54	.42	.26	1.36	.97	.67
1924 . . . . .	.54	.44	.28	1.39	1.03	.66
1925 . . . . .	.65	.53	.30	1.43	1.09	.71
1926 . . . . .	.60	.53	.29	1.55	1.12	.74
Blanket-subsidy period:						
1927 . . . . .	.74	.57	.30	1.59	1.20	.76
1928 . . . . .	.77	.57	.34	1.61	1.32	.78
1929 . . . . .	.85	.63	.38	1.71	1.30	.87
1930 . . . . .	.88	.68	.45	1.75	1.36	.92
1931 . . . . .	.88	.70	.45	1.72	1.36	.90

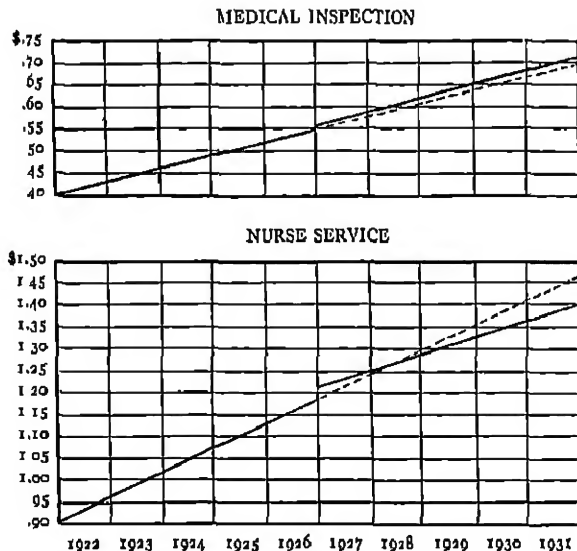


FIG. 1.—Trends of annual average unit expenditures for medical inspection and nurse service. The years 1922-26 represent the period of special subsidy and 1927-31 the period of blanket subsidy of state aid. Unbroken lines represent average expenditures computed from observed data; broken lines, the extrapolated expenditures.

expenditures per pupil in average daily attendance correspond in most cases rather closely with the observed expenditures computed from the raw data. It may be said, then, that the regression lines represent the best description of the trends of expenditures for those years which furnished the data for the computations.

The gradual and constant growth of medical inspection shows almost identical trends during both periods studied. In addition, the observed expenditures tend to coincide with the predicted expenditures in the extrapolated trend with little deviation in any of the years. No significant differences in the trends occur. During the blanket-subsidy period the expenditures of the previous period were not only maintained but were increased to the extent that they followed the predicted trend.

Because most cities and villages did not distinguish between expenditures for nurse service and health-teaching in the accounting records, these two were considered as one undertaking. The subsidy from the state for both services was granted on the same conditions and for the same maximum quota.

Nurse service shows trends somewhat similar to those for medical inspection. No significant differences are observable in trends of expenditures for the two periods of finance. Although the annual average expenditures for this service were higher in the blanket-subsidy period, the annual increments occurred at a lesser rate.

A mandatory law was in effect requiring cities and villages to provide these health services. Therefore, it is not surprising that an investigation of the annual statistical reports shows that in 1922 only twelve New York cities and villages with superintendents of schools were not providing nurse service and that only four failed to provide medical inspection—excluding cities of the first class, which relied on the city health service for the inspection of pupils.

The percentages given in Table II reveal that in either period little difference is apparent in the proportion of cities and villages providing the mandatory health services. The fact is evident, however, that during the period of the blanket subsidy these services were maintained by as many communities as maintained them when special subsidies were offered, or by more. Medical inspection was provided in 97 per cent of the communities in 1922 and in 99 per

cent in 1929. Nurse service was provided in 90 per cent of the communities in 1922 and in 92 per cent in 1929.

A summary has been made of the supervisory and other devices employed by the State Education Department to stimulate the growth of health services and to maintain standards. The data were secured from the published annual reports and from personal interviews with officials of the State Education Department. While the devices presented in the following list are not complete, these are the major devices used in stimulating local educational effort and progress.

TABLE II
PERCENTAGES OF NEW YORK CITIES AND VILLAGES PROVIDING MEDICAL
INSPECTION AND NURSE SERVICE DURING 1922-29*

Year	Medical Inspection†	Nurse Service
Special-subsidy period:		
1922	97	90
1923	97	90
1924	97	91
1925	96	91
1926	98	91
Blanket-subsidy period.		
1927	99	92
1928	99	92
1929	99	92

* Statistical data for 1930 and 1931 were not available to the investigator.

† Exclusive of cities of the first class: New York City, Buffalo, and Rochester.

MEDICAL INSPECTION

1. "Great credit for expanding this service is due to local parent-teachers' associations, Red Cross, and similar groups" [comment of state health inspector].
2. Frequent conferences with local inspectors.
3. Addresses.
4. Visits to school districts.
5. Experiments carried on in several communities by Red Cross and Milbank Foundation.

NURSE SERVICE

1. Co-operation with teacher-training institutions.
2. Semiannual reports from local districts.
3. Conferences.
4. Visits.
5. Advice.
6. Bulletins.

An analysis of the evidence offered to explain the factors and agencies which influenced educational expenditures leads more or less directly to a study of the social and the psychological bases on which such expenditures build. Those influences that lead the communities to emphasize or to disregard health in the schools are not to be found in an analysis of school expenditures isolated from the social and the economic processes of the community.

Findings of the New York State Health Commission.—Under the chairmanship of Livingston Farrand, president of Cornell University, the New York State Health Commission carried on a two-year survey of the health resources of the state and formulated a twenty-year program for the saving of many lives.

Physical examination of every school child every year represents a useless expenditure of public funds, it is pointed out, unless steps are taken to correct the physical defects found. Of the total defects reported in the year 1929-30, 62.4 per cent of those reported in cities were treated; of those defects reported in villages, 54.9 per cent were treated; and of those defects reported in rural schools, 35.9 per cent were treated. Thus, hundreds of thousands of dollars are spent annually in the state for the examination and the re-examination of children to discover and rediscover the presence of defects about which nothing is done either by the parents or by the school. The report of the commission states:

Sometimes this is due to ignorance, or neglect by parents, more frequently to lack of available facilities or the inability of parents to pay the costs of the medical or dental care which their children need. Future efforts to control the health of school children should be directed toward securing the necessary care and treatment rather than routine re-examinations.¹

The new school health program proposed by the commission includes the provision of (1) adequate nursing service, (2) more complete but less frequent physical examinations, (3) facilities for correction of physical defects, (4) better dental supervision, (5) competent health instruction, and (6) adequate control of communicable disease.

Summary.—In accordance with the stated objectives of this inquiry, the following findings are reported.

¹ *Public Health in New York State*, pp. 309-10 Report of the New York State Health Commission. Albany, New York: State Department of Health, 1932

authority, (4) measures it can take and resources at its disposal, and (5) results hitherto attained and conclusions to be drawn.

193. "Directory of Educational Associations," *Journal of Education* (London), LXV (Supplement to March, 1933), 183-91.

Not infrequently persons in the United States wish to work with education associations in Great Britain. A fairly complete list of such associations, with names and addresses of their officers, is given in the directory. This issue of the journal includes also a discussion of "Comparative Costs of Education in England and Other Countries" by G. Morris.

194. GREAT BRITAIN BOARD OF EDUCATION. *Trade Schools on the Continent*. Educational Pamphlets, No. 91 (Industry Series, No. 11). London: His Majesty's Stationery Office, 1932. Pp. 114.

A study of technical education in France, Belgium, Czechoslovakia, and Holland with particular attention to the apprenticeship stage and trade schools

195. KANDEL, I. L. (Editor). *Educational Yearbook of the International Institute of Teachers College, 1931*. New York: Teachers College, Columbia University, 1932. Pp. xvi+722.

This eighth of the series of yearbooks issued by International Institute of Teachers College is given over to educational practices in the colonial dependencies of the leading countries of the world. Belgium, the British Commonwealth of Nations, France, Italy, Japan, and pre-war Germany are included.

196. LEAGUE OF NATIONS' INSTITUTE OF INTELLECTUAL CO-OPERATION. *Holiday Courses in Europe, 1933*. Boston: World Peace Foundation, 1933. Pp. 60.

This annual handbook answers the many questions asked by persons in the United States who wish to take summer courses in Europe.

197. *Littérature enfantine et collaboration internationale*. Geneva: Bureau International d'Éducation, 1932. Pp. 243 (in both French and English).

Published as an extension of an inquiry begun in 1928 on children's books and international good will. A list of titles of children's classics in many countries, of books which are favorites with children, of those that foster world-friendship among children, and of books (even in manuscript form) written by children. The returns are from thirty-seven countries.

198. *L'Organisation de l'instruction publique dans 53 pays*. Geneva: Bureau International d'Éducation, 1932. Pp. xii+374.

Describes in detail and illustrates with a graph the organization of instruction in each of fifty-three countries. All graphs are drawn on one plan. Each sketch includes a brief bibliography and a summary of education statistics for the country

199. PERCY, LORD EUSTACE (Editor). *The Year Book of Education, 1933*. London: Evans Bros., Ltd., 1933. Pp. c+860.

In fourteen sections, each consisting of one to fifteen articles. Covers a wide variety of subjects relating to education in the British Commonwealth of Nations and includes a section on foreign countries. The discussions of school finance are unusually clear. This volume is the second of the series

200. RYPINS, HAROLD. "The Foreign Medical Graduate," *Journal of the Association of American Medical Colleges*, VIII (March, 1933), 92-96.

Many of the applicants rejected for admission to medical colleges in the United States go to other countries to study medicine. The author asks whether this practice may not lower the quality of the medical service in the United States and presents in partial answer to his question data from the New York medical licensing examination. He compares the percentage of failures among American students with the percentage among students from other countries.

BY COUNTRIES

AFRICA

201. JOWITT, HAROLD. *Principles of Education for African Teachers*. London: Longmans, Green & Co., Ltd., 1932. Pp. 216.

Written as a textbook to be used in training teachers of African native children, especially the Bantu youth. Includes a chapter on the aims of African education

202. OLDHAM, JOSEPH HOULDSWORTH, and GIBSON, B. D. *The Remaking of Man in Africa*. London: Oxford University Press, 1931. Pp. 186.

A discussion of such questions as "What Is Christian Education?" "Can Education Be Left to the State?" "Education and the Missionary Purpose."

AUSTRIA

203. MÖCKEL, ROBERT. *Der Aufbau des österreichischen Schulwesens*. Vienna. Österreichischer Bundesverlag, 1929. Pp. 28.

A brief statement of the organization of instruction in Austria. Illustrated with a graph.

CANADA

204. *Annual Survey of Education in Canada, 1931*. Ottawa: Dominion Bureau of Statistics, 1932. Pp. xlviii+140.

The annual official report of education in Canada, the twelfth of a series begun in 1920 and the only thorough survey of education in the entire Dominion.

CHINA

205. LEAGUE OF NATIONS' MISSION OF EDUCATIONAL EXPERTS. *The Reorganization of Education in China*. Paris: League of Nations' Institute of Intellectual Co-operation, 1932. Pp. 200.

The report of one of the attempts in the history of education to assess what should be the largest of school systems and to suggest ways of bettering it. A general survey of education in China.

206. SADLER, MICHAEL E. "Education in China," *Oversea Education*, IV (January, 1933), 53-62.

A review of the report of the League of Nations' Mission on the reorganization of education in China.

EGYPT

207. *L'Instruction publique en Égypte*. Geneva: Bureau International d'Éducation, 1932. Pp. 24.

A descriptive, factual account of present-day education in Egypt. Valuable because very little information is obtainable on the subject.

ESTONIA

208. *L'Instruction publique en Estonie*. Geneva: Bureau International d'Éducation, 1932. Pp. 16.

An all too brief account of one of the new school systems established in Europe since the World War.

FRANCE

209. DUFRENNE, PIERRE A. *L'École unique*. Paris: Nouvelle Librairie Française, 1932. Pp. 144.

Serious attempts are being made in France to unite the dual school system into a unit system. This book is in advocacy of the movement.

210. DUGAS, L. "L'Éducation des sentiments," *L'Éducation*, 24th Year (January, 1933), 195-223.

Schools in France regularly give training in morals and social contacts. This article discusses how to train children in feelings of comradeship and friendliness.

211. HALDEN, CH. AB DER, and LAVAUT, MARGUERITE. *Pour enseigner la morale. Entretiens—lectures—commentaires*. Paris: Fernand Nathan, 1932. Pp. 364.

A treatise on teaching morals in French schools. Handles such subjects as discipline at school and in life, liberty and responsibility, human dignity, love of truth, duty and the law, and legitimate ambition.

GERMANY

212. BURGDÖRFER, FRIEDRICH. "Volk ohne Jugend," *Pädagogisches Zentralblatt*, XII (October, 1932), 461-81.

A discussion of the decreasing birth-rate in Germany.

GREAT BRITAIN

213. *Adult Education and the Changing World*. London: British Institute of Adult Education, 1932. Pp. 94.

The discussions of the Eleventh Annual Conference held by the British Institute in 1932.

214. ALLISON, THOMAS. *Pioneers of English Learning*. Oxford: Basil Blackwell, 1932. Pp. xx+110.
Individual portraits of scholars contemporary with Bede
215. EICHMOLZ, ALFRED. *A Study of the Deaf in England and Wales, 1930 to 1932*. London: His Majesty's Stationery Office, 1932. Pp. 206.
Discusses such general considerations as nature, diagnosis, and extent of deafness. Includes a chapter on the education of the deaf and a chapter on the deaf in adult life.
216. FORREST, F. M. "Modern Languages in English Schools," *New Era in Home and School*, XIV (January, 1933), 3-7.
This issue is devoted to the teaching of languages and includes a summary of such teaching in different countries.
217. GREAT BRITAIN BOARD OF EDUCATION, *School Buildings: Economy in Construction*. London: His Majesty's Stationery Office, 1932. Pp. 12.
A circular issued by the Board of Education of Great Britain laying down principles of sound building construction and telling how economies may be effected
218. GREAT BRITAIN BOARD OF EDUCATION, *The School Certificate Examination*; Report of Panel of Investigators. London: His Majesty's Stationery Office, 1932. Pp. 162.
An official inquiry into the eight approved school examinations held in England and Wales in the summer of 1931. A good report for persons in the United States who wish to understand the English scheme of examinations. Contains discussions of examinations in general.
219. *The Health of the School Child*. Annual Report of the Chief Medical Officer of the Board of Education for the Year 1931. London: His Majesty's Stationery Office, 1932. Pp. 156.
This report contains reliable data on nearly all aspects of the health of children in school in Great Britain.
220. HOY, JOSEPH DENZIL "An Enquiry as to Interests and Motives for Study among Adult Evening Students," *British Journal of Educational Psychology*, III (February, 1933), 13-26.
A study of the interests and motives that lead adults to study at evening institutes. The thirteen conclusions point the way to improvement in evening classes for adults.
221. THE MATHEMATICAL ASSOCIATION, BOYS' SCHOOLS COMMITTEE *The Teaching of Arithmetic in Schools*. London: G. Bell & Sons, Ltd., 1932. Pp. 82.
A teacher's handbook prepared by a special committee. The first of a series on the teaching of elementary mathematics in English schools.

222. PERCY, LORD EUSTACE. "Modern Languages in Secondary Schools," *Modern Languages*, XIV (February, 1933), 88-95.
The presidential address delivered to the Modern Language Association on January 5, 1933. A discussion of the teaching of modern languages in secondary schools.
223. SMITH, FRANK. *A History of English Elementary Education, 1760-1902*. London: University of London Press, Ltd., 1931. Pp. viii+360.
A review showing how the religious, social, political, and economic factors in English life influenced the evolution of the people's schools.
224. UNIVERSITY OF LIVERPOOL. *Social Factors in Secondary Education*. Liverpool: Daily Post Printers, 1932. Pp. 44.
A part of a social survey of Merseyside. A detailed examination of such factors as attainment in school, type of primary school attended, length of school life, and occupational grade entered in relation to parents' occupation, leads to the conclusion that the road to a liberal education is not open to everybody without handicap or hindrance.

GUATEMALA

225. *Memoria de las labores del ejecutivo en el ramo de educación pública durante el año administrativo de 1931*. Guatemala: Ministerio de Educación Pública, 1932. Pp. 220.
The official annual report of the ministry of public education of Guatemala to the legislative assembly of that country.

HUNGARY

226. KORNIS, JULIUS. *Education in Hungary*. New York: Teachers College, Columbia University, 1932. Pp. xii+290.
An extensive, well-written account in English of education in Hungary, the first available since 1908. An edition in German is also off the press.

INDIA

227. BULKELEY, J. P. *Eighth Quinquennial Report on Public Instruction in Burma for the Years 1927-28 to 1931-32*. Rangoon: Superintendent, Government Printing and Stationery, 1933. Pp. 46+Ixxii.
The latest official report covering five years of education in Burma. Summarizes the progress in all phases and includes comprehensive statistical tables.
228. CLARK, F. K. *Education in India in 1929-30*. Calcutta: Government of India Central Publication Branch, 1932. Pp. 76.
An official report on education in India.
229. CLARK, F. K. *Education in India in 1930-31*. Calcutta: Government of India Central Publication Branch, 1933. Pp. 82.
The latest official report on education in India. These reports are statistical and descriptive summaries of the reports issued by the various provincial departments of public instruction.

230. *Statement Exhibiting the Moral and Material Progress and Condition of India during the Year 1930-31*. London: His Majesty's Stationery Office, 1932. Pp. 752.

The official statement on India. It includes good chapters on health and education and the advancement of science. The reader is furnished the background for understanding these problems.

NETHERLANDS

231. DE MINISTER VAN ONDERWIJS, KUNSTEN EN WETENSCHAPPEN. *Het Onderwijs in 1930*. The Hague: Algemeene Landsdrukkerij, 1932. Pp. 500.
The official report on education in the Netherlands. A comprehensive survey.

POLAND

232. "Informations statistiques de l'office central de statistique," *Statistique de l'instruction et de la culture intellectuelle* (Warsaw, Poland), Fascicule special VII (1932). Pp. 42.

Contains detailed data for 1930-31 and for the preceding years, usually to 1923, concerning education and other cultural activities in Poland.

PUERTO RICO

233. PEDREIRA, ANTONIO S. *Bibliografía puertorriqueña (1493-1930)*. Monografías de la Universidad de Puerto Rico, Serie A, Estudios Hispánicos, No. 1. Madrid, Spain: Imprenta de la librería y casa editorial Hernando (s.a.), 1932. Pp. xxxii+708.

A comprehensive bibliography on Puerto Rico including references to its education and culture.

SCOTLAND

234. COMMITTEE ON LOCAL EXPENDITURE. *Report of the Committee on Local Expenditure (Scotland)*. London: His Majesty's Stationery Office, 1932. Pp. 160.

Contains a chapter on the costs of education in Scotland and how these may be reduced without serious injury to the service.

SOVIET UNION

235. ASHTON, GEORGE D. "Education in Russia: A New Zealander's Impressions," *National Education*, XIV (December, 1932), 539-42.

A tempered statement of what the author saw in the Soviet Union.

STRAITS SETTLEMENTS

236. *Annual Report of the Education Department for the Year 1931*. Singapore: Government Printing Office, 1932. Pp. 66.

Contains, in addition to the usual statistics and comments, a historical account of education in the Straits Settlements from 1823, when Sir Stamford Raffles began his work, until 1931.

SWEDEN

237. EDSTRÖM, J. SIGFRID. "Playgrounds and Sports in Sweden," *American-Scandinavian Review*, XXI (February, 1933), 107-13.

An address given at the International Recreation Congress in Los Angeles in 1932.

UNION OF SOUTH AFRICA

238. UNION OF SOUTH AFRICA DEPARTMENT OF EDUCATION. *Annual Report of the Department of Education for the Year Ended December, 1931*. Pretoria: The Government Printer, 1933. Pp. 52.

Consists mainly of statistical tables on education in the Union of South Africa. Very brief discussions serve as an introduction

URUGUAY

239. YANNUZZI, EUGENIA S. "La enseñanza práctica de la puericultura a las futuras maestras," *Boletín del instituto internacional americano de protección a la infancia*, VI (January, 1933), 286-98.

Tells of the importance that child-care teaching has acquired in Uruguay and especially of the work in the Women's Normal School at Montevideo.

Educational Writings

REVIEWS AND BOOK NOTES

A state's minimum educational program.—One of the complex and ever-present tasks confronting practically every state is to determine ways and means by which equal educational opportunities may be furnished all the children of all the people. Two of the most difficult aspects of the task are to distribute equitably the burden of cost and to determine what should constitute the minimum educational services that public schools should provide in view of all the problems to be faced in equalizing opportunity. It is to the minimum educational program that the investigation under review¹ has been directed.

The work of this research has been concentrated on the following three major purposes: (1) What are the elements that a state may employ in determining the content of a minimum program? (2) What are the elements that may rightly be considered by a state as desirable in a minimum program? (3) What are the results if the program is evaluated in terms of modern educational thought? The techniques and findings of the study are set forth in four chapters following the usual statement of the problem and the review of pertinent literature found in the introductory chapter.

As an initial step in this project, the author canvassed the statutes of the several states to ascertain the degree to which school laws reveal points of general agreement concerning the elements regulated by law and the degree to which educational policy and practices in reference to these elements are determined by the constitution, the state legislature, or the local school districts. Through this review the elements which may comprise a minimum educational program were selected for analysis and consideration. The author proceeds on the principle that, "even though present practice does not necessarily constitute positive proof of the feasibility of an undertaking, it does rest upon a strong presumption of soundness, which places the burden of proof upon those who would deny the desirability of such undertakings" (p. 30). The acceptance of such a principle tends to a static rather than to a dynamic order. Operating under such a principle, one must assume that current practice establishes a foundation upon which a sound, equalized, minimum program of education can

¹ Arthur W. Schmidt, *The Development of a State's Minimum Educational Program* Teachers College Contributions to Education, No. 508. New York: Teachers College, Columbia University, 1932. Pp. vi+106. \$1.50.

be constructed and perpetuated. On this doctrine many of the plans for equalizing educational support within a state have been built. The consequence has been to intrench more deeply in the states concerned unsound educational and economic elements until they are becoming perpetual barriers to progress and to a true equality in educational opportunity. In a dynamic society it can better be assumed that what is may in time be changed. Therefore, why not attempt to determine intelligently the direction the change shall take?

To speak in general terms about education in the various states or about educational practice in different sections of the country brings to the forefront in the thinking of the student of education all the ifs, buts, ands, and exceptions. To presume that the mandatory legislation in any but a very few states, if judged by the published statutes, was ever created with the thought that a minimum educational program was being established for all schools in a state is indeed an unsound assumption. The majority of states have one minimum educational program for rural schools and another for urban schools. Offhand, one state can be selected which has five minimum educational programs established by the statutes for five different classes of school districts defined in law. Hence, a discussion treating mandatory legislation in education as though the legislation applied to a state as a whole when it applies only to a part of a state is indeed misleading. In reviewing the discussion of mandatory legislation in chapter iii of this study, one is led to believe that each state has a single minimum educational program. It is indeed odd to assume that each state has a single set of educational principles which underlies a unified educational philosophy and which produces anything comparable with a single minimum educational program for all the youth of the state. There is much confusion in the author's discussion of such elements as county superintendents, buildings, school terms, attendance, special classes, and the like; some of the statutes referred to apply to the rural schools, while others apply to only special types of school systems and still others apply to large cities like Philadelphia. Many of the elements listed by the author as mandatory in the several states apply to only a fractional part of the school population of those states. The fallacy in treating the problem in such a general way leads to errors. For example, in calling attention to the minimum qualifications for teachers, the author states: "These vary from eight weeks of normal training in Oregon and ten weeks in Oklahoma to the equivalent of two years of normal or college training in Montana, Minnesota, Arizona, and Pennsylvania" (p. 27). In fact, there are over seventy-five hundred school districts in Minnesota which are legally authorized to employ teachers with one year of professional education beyond high-school graduation.

The author assumes that the local administrative unit is one of the elements which might be included in a minimum educational program. Unless the school-district organization upon which a constructive program could be created were determined, an insurmountable task would be faced in the long run if one attempted to develop a minimum educational program which would supply equality of opportunity. It is of passing interest to note that the author discusses only two forms of organization, namely, the county and the community school dis-

tricts, as possible ultimate types. He says: "Whether one or the other plan or both plans represent the most satisfactory organization remains to be discovered by further research" (p. 65). What would happen if research should prove that neither of the two suggested plans were the most practical, economical, or feasible plan?

The author resorts to the jury method for determining which of the elements selected as parts of a minimum educational program should be controlled through the constitutions, by the state legislatures, or by the local school districts. How delightful it would be if one might assume that, because a person is a college professor in education or a superintendent of schools, he is, by nature of the title held, a competent judge in all educational affairs and that the judgments of all persons of the same title are of equal value when applied to important matters directly or indirectly related to their fields of work! The chapter analyzing the returns received from those selected to judge is of interest because of the extreme reactions, but the analysis appears to add little to the solution of the problems of the study.

The critical student of educational administration will be interested in the attempt made in the last chapter to show how the minimum standards of an educational program may be related to cost and to the share of the cost burden which the state should assume. The materials used for illustrative purposes were collected in Florida by the State Survey Staff under the direction of George D. Strayer, of Teachers College, Columbia University, for the school year 1927-28. The qualification of teachers is one of the elements chosen to present the technique. A total of 2,640 white elementary-school teachers formed a basis for a correlation (.38+.017) between salary and training, with experience held constant. It is assumed that, with this low correlation, a sound practice would evolve through the use of a suitable regression equation for predicting the average minimum salary which might be expected to be paid for minimum professional qualifications. Through this statistical process, cost, standards, the minimum program, and the state's share in the burden are to find their ultimate solution. Teacher qualification is an easy element to choose as an illustration of the mathematical applications that such an assumption makes possible. One may well challenge the practice when the element of supervision or other elements are considered. Is it to be assumed that the state will ever attempt to determine by legislation the number of supervisors to be employed by each district for a given number of teachers? Is school organization to be so dogmatized in its conception that the number of attendance officers or the number of nurses to be employed in schools shall be arbitrarily or statistically established on the basis of averages or current practice and then fixed by statute? If this plan is adopted and if the state's share in the cost is to be allocated by precise statistical analysis of costs determined by the standards created, educational leadership can rest assured that a crystallized formalness will dominate school organization and that flexibility in administration and organization will give way to a lockstep never before experienced.

No, indeed, it will not be so easy to devise precise statistical measures of a

dynamic minimum educational program as the author appears to conclude. Let us not expect to find such precise mathematical measures for organizational practice set up to render educational services. If one wishes to fix dogmatically organization, practice, and procedure, the plan of this thesis will probably work. Education must, however, have much intelligently controlled variation, great flexibility, and much freedom in the choice of organizational procedure if progress is to be made in developing the public schools in any state.

UNIVERSITY OF MINNESOTA

FRED ENGELHARDT

The technique of teaching in progressive schools.—The progressive movement in education in the United States has attracted a large following. At the outset, the critics of all that is formal and mechanical in school procedure formed the nucleus of its organization. Later, the label attached to the movement served to attract those teachers who shun the classification of "unprogressive" and "reactionary." Finally, many supervisors in the schools and instructors in training institutions have forced on teachers in service and in training the conviction that the way to become progressive is to join a movement. As a consequence, many a teacher has declared himself a "progressive" without knowing exactly how to be one and only to discover that he has acquired a purpose without a technique.

Recognizing the danger that those teachers who have gone progressive by reason of ulterior influences may "blindly adopt mechanical and formal methods" (p. vii), such as "projects" and "activity programs," Professor Melvin has written a book "as an attempt to be of help in this situation." "It is hoped," he says in the Foreword, "that both teachers in training and teachers in service will find here a description of the newer teaching which will meet their practical needs. It [the book] attempts to set forth the philosophy and the technique which will enable them to develop and administer an activity program which is no formal array of imitative procedures but which is organically developed, new and ever changing" (p. vii).

The technique of progressive teaching is based on a philosophy of opportunism. The child in a social environment feels certain *needs*, both personal and of the group, to engage in a "whole activity" (p. 30), like going for a swim, caring for chickens, writing to a friend, learning about Indians, finding the cost of a party, or conducting a school store. When permitted and encouraged, the child engages in such "whole activities" and thus learns by doing, and these "whole activities" give the teacher his opportunities for leadership and guidance. The teacher's technique, under such circumstances, appears to be that of uniting personal needs and activities into group needs and activities and of diverting his leadership or assistance, as the case may be, at a moment's notice from bean bags to store-keeping and from caring for an animal to a children's picnic. The teacher must, apparently, develop the technique of using little, if any, technique

¹ A Gordon Melvin, *The Technique of Progressive Teaching*. New York: John Day Co., 1932. Pp. x+406. \$2.95.

because the progressive school is "not an institution run by regulation and rule, but a community of self-determining children busying themselves about dozens of things" (p. 11).

Much is said, both directly and by implication, against the formal teaching of subjects in the "old-fashioned" school. The subjects are considered as something outside the lives of children and repugnant to their interests. Consequently, the "old-fashioned" teacher is condemned because he sometimes invoked an extrinsic interest through "sugar-coating." The "progressive" teacher would abandon subjects or introduce only such portions of them as the children need to learn in connection with their "whole activities." Children become interested in reading, or writing, or arithmetic when they feel a need for the knowledge, and their interest in such circumstances is a lively one because it comes from their "whole activities." The reader of the book is left to wonder why extrinsic interest is so ineffective in the one case and so effective in the other, and he must determine for himself what the teacher is to do, other than to conduct a drill, when the child demands to be taught reading or arithmetic. Although there is much in Professor Melvin's book to stimulate a critical attitude toward the work of the ordinary school and to arouse an interest in the study of children and in their activities, whims, and needs, one fails to find any indication that the progressives have moved beyond the warped and narrow conception of the nature of the school subjects possessed by the most formal of old-fashioned teachers. Instead of developing a broader and more correct conception of the subjects, the progressives seem to have accepted the one they found existing, assumed it to be the only conception possible, and then turned their faces toward a "new" school in which subjects would be nonexistent.

The book contains thirty-one chapters, organized into five parts entitled "Basic Theories of Teaching," "The Fundamentals of Technique," "The Technique of Class Management," "Techniques for Directing Learning," and "The Technique of Class Teaching." There is a good bibliography but no index.

The book will be examined by three groups of students. (1) the progressives, for confirmation of their beliefs; (2) their opponents, for materials which are subject to criticism; and (3) those who look upon the school as society's agency for helping children to enter upon their social inheritance, for ideas about the nature and the extent of the social arts. The first and second groups will be abundantly rewarded. The third group will labor in vain.

H. G. WHEAT

MARSHALL COLLEGE, HUNTINGTON, WEST VIRGINIA

The Chicago school survey.—Educational literature was increased to the extent of 1,510 pages in October, 1932, by the publication of the *Report of the Survey of the Schools of Chicago, Illinois*.¹ The survey was directed by Professor

¹ *Report of the Survey of the Schools of Chicago, Illinois*. Vol. I, pp. xii+350; Vol. II, pp. x+324; Vol. III, pp. x+228; Vol. IV, pp. xii+316; Vol. V, pp. x+138. New York: Division of Field Studies, Institute of Educational Research, Teachers College, Columbia University, 1932.

George D. Strayer, Division of Field Studies, Teachers College, Columbia University. The contract to conduct the survey was signed in October, 1931, and the undertaking was completed June 1, 1932, at which time twelve typewritten reports were delivered to the Chicago Board of Education. Ten thousand printed copies were subsequently delivered to insure a wide consideration of the report by the personnel of the Chicago schools.

A large staff of specialists participated in the survey, including seventeen members of the faculty of Teachers College, ten faculty members from other universities (excluding institutions in Chicago) and public-school systems, seventy-one field workers, and a number of clerks and statisticians. The scope of the survey is indicated by the following topics which are considered in Volumes I to IV: administrative organization, business management, school finance, educational personnel, and social services of the schools, in Volume I; adjustment of the school to the pupils, secondary education, and higher education, in Volume II; the curriculum, teaching and supervision in the elementary schools, health and physical education, and vocational education, in Volume III; and school buildings and the operation of the school plant, in Volume IV. Volume V contains a summary statement by Professor Strayer of the findings and a recapitulation of the recommendations of the other volumes.

Analysis of the phases of education treated in the report shows that Volumes I and IV deal chiefly with administrative problems. These volumes constitute the larger part of the survey. Inasmuch as the survey was occasioned by conditions in administration which were matters of controversy between the Chicago Board of Education on the one hand and the civil administration of Chicago, citizens' organizations, and teachers on the other, the two volumes indicated contain material of greatest local interest. These volumes also make the most important contribution of the report to the literature on educational surveys.

In Volume I the organization of the board of education and its relations to the superintendent of schools are carefully analyzed, and recommendations are made to provide the basis of needed legal changes and improved administrative practice. This part of the survey uncovers the sources of most of the difficulties in the administration of the public schools of Chicago, namely, the multiple type of school organization and administration through standing committees. The recommendation with respect to the abolishment of standing committees has already been accepted by the board, but the pernicious multiple type of organization, which makes the attorney of the board and the business manager independent of the superintendent and education department, must continue until the special act of the legislature which established the organization is revised. If the survey should accomplish nothing more than the awakening of the Chicago Board of Education and the public to the fallacy of the multiple type of organization and its attending results and to the necessity of promptly correcting the fallacy, the cost of the survey to the city will be justified.

Volumes I and IV should also prove to be of great practical value in the administration of the Chicago schools. Principles of efficient business management

not applied at present are pointed out; methods of effecting retrenchments required by the financial condition of the city are proposed; improved practices in building construction, site acquisition, and plant operation are recommended, which if applied will result in enormous savings in money and increased efficiency in administration. The volumes also contain constructive proposals for the reorganization of the education department, the administration of the educational personnel, and the improvement of social-service responsibilities of the school.

The findings and the recommendations of Volumes II and III, which pertain to the activities of the schools, are of less significance at present than those contained in Volumes I and IV. The ultimate value may be as great, or even greater, but careful reading of the reports does not indicate to the reviewer that such will be the case. The members of the survey staff responsible for these volumes were compelled by the magnitude of the task to adopt sampling methods, which made possible generalizations and recommendations but not positive findings of diagnostic value to the system as a whole.

The weakness of the reports dealing with the work of the schools is illustrated by the section treating supervision. The surveyors evidently believe that the improvement of the elementary schools must be brought about through supervision. Accordingly, an effort is made to set forth the proper conception of supervision, to indicate the nature of its future organization for Chicago, and to indicate the shortcomings of the supervision in use at the time of the survey investigation. No one will disagree with the general principle of the survey staff that supervision is one of the most important educational functions of a city school system, and few will question their wisdom in recommending that the general burden of supervision must rest on the school principal. The improvement of teaching in the individual schools depends on the principal. The survey recommends that an assistant superintendency be established for elementary schools with a staff of special supervisors to aid the principals with their supervisory programs. The survey staff believes that the district superintendents should be relieved of certain administrative duties which make heavy demands on their time, such as budget administration and attendance, and that the time thus released should be used in supervision. The gist of the recommendations is that more time should be devoted to supervision and that the supervisory staff should be organized with a view to establishing responsibility for results. Group supervision is encouraged with principals and with teachers as a measure of economy and efficiency. The work of the special supervisors and the district superintendents is to be largely of the group type, in which a number of individuals are together counseled regarding a problem and individual opinions and experiences are utilized for the improvement of the group.

The opinion is expressed without supporting data, although such data may have been possessed by the members of the survey staff, that a broad program of general supervision is generally lacking in the elementary schools of Chicago. The district superintendents' influence on their schools through supervision is considered slight—a condition probably due in part to present economic condi-

tions and in part to the numerous administrative duties of these officials. The proportions of the elementary-school principals engaged and not engaged in effective supervisory work is not specified by the surveyors, although it is implied in the report that many principals, because of inadequate training, unsatisfactory experience, and lack of stimulation from their superior officers, neglect supervision. The first recommendation for the improvement of supervision is that the district superintendents, the principals, and the special supervisors be organized under an assistant superintendent as a supervisory staff. The second recommendation involves the reorganization of administrative duties so that the general supervisors, the district superintendents, and the principals may secure adequate time for supervision. The third recommendation advises the organization of professional study groups and visiting groups by the district superintendents for the stimulation and training of the principals for supervision.

The recommendations regarding the improvement of supervision will probably be considered sound by the majority of readers. The recommendations are subject to the criticisms (1) that they are general and are as applicable to other large cities as to Chicago, (2) that they do not differentiate between the needed training of novices and the proper treatment of those of the staff who have already attained eminence in supervision, and (3) that the training program of the staff is not vitally related to the recommendations for the improvement of elementary instruction set forth in the section on the elementary school.

The recommendations and the findings of the survey as a whole present a challenge to the Chicago Board of Education, administrative officers, teachers, and Chicago citizens. If the reports are critically studied as the basis of a constructive program of educational and administrative improvement, valuable results will no doubt be realized for the public schools of Chicago.

W. C. REAVIS

A story of early American history.—The revision and the rewriting of elementary-school textbooks dealing with the history of our country goes on apace. One of the latest books for the grades immediately below the junior high school is *The Story of America for Young Americans* by Burnham and Jack.¹ This volume is intended especially for Grades V and VI. It is well adapted to the sixth grade of the average elementary school. As its title indicates, the book consists of a series of stories of early American history, and, as such, it is of more value to children of elementary-school age than are books that treat history in the form of biography alone.

Some outstanding features of this textbook are: (1) a good, but very brief, statement of our Old World background; (2) attractive and appropriate illustrations, with some pictures in color; (3) the clarification of the connections be-

¹ Smith Burnham and Theodore H. Jack, *The Story of America for Young Americans: The Beginnings of Our Country*. Philadelphia: John C. Winston Co., 1932. Pp. xvi + 312. \$0.96.

tween numerous English events and related happenings in America; (4) descriptions of home, school, and church life, which are interestingly and vividly told and which will appeal to the children, (5) a division of the subject matter into "units," with a review at the end of each unit; (6) suggestions for pupil activities at the end of each of the chapters in the form of assignments or suggestions of "Things To Talk About," "Things To Think About," "Things To Do," and "Books To Read." A notably good feature and teaching device is an introduction to each unit in the form of a preliminary statement or "foreword," which serves as a preview of the contents of the unit, as well as a connecting link with the previous unit.

Some valuable suggestions are given in the Preface concerning methods suitable for the use of such a textbook—what to do and what not to do. For instance, stress is laid not only on the teacher's "preview" but also on the pupil's telling the story of the unit as a whole. Projects and problems are also suggested or are to be provided by the teacher.

A question naturally arises concerning the sequence of courses into which the authors would have the volume fit. Since it covers only the "first cycle" of American history, one wonders whether it was meant for only one-half year's work, the other half being given to the European background. Presumably this arrangement is that anticipated.

In explanation and defense of their method of presentation, the authors state that the selection and the treatment of the material included in the book is based on the conviction that the stage of the mental development of the pupils should determine the material of instruction and the method of presentation. Accordingly, stress is given to outstanding personalities, action, and the elements of cultural history. The treatment of more mature topics, such as politics, finance, and diplomacy, is held to a minimum or omitted altogether in the belief that the consideration of such topics may be wisely postponed until the junior high school. On the whole, the authors have conformed well to this point of view and method.

The book is faulty, however, in its "unit" organization. Since the "units" have been presented in the form of important divisions or periods of our history, some of the most vital essentials of true unit construction have been violated. The true unit cannot usually be built up on the basis of divisions or periods but must be developed around the genuine *centers of interest* of the children.

According to the authors, this textbook is to serve the education of the boys and girls in three ways. by adding useful knowledge, by training in the power to think, and by giving a clear conception of what things are worth thinking about. Little evidence is adduced, however, to show that the materials have been so selected as best to serve "these three fields."

In thinking of the trends and purposes of the social-science curriculum in the schools, the reader naturally is confronted with the question whether the story of America should not be told in one volume, as in Bourne and Benton's *Story of America and Great Americans*, Coddington and Long's *Our Country*, and other

textbooks. The reviewer is inclined to favor the complete story in one volume.

The book by Burnham and Jack, when all is said, is an excellent one of its kind and should find wide acceptance and use in elementary schools. The style is simple and attractive, and with the aid of the large wall maps found in many school rooms, showing the Eastern Hemisphere in ancient times, Europe and the Near East in the Middle Ages, and North America and the Western Hemisphere in modern times, the story of America may be forcefully told.

R. E. SWINDLER

UNIVERSITY OF VIRGINIA

A history reader for the higher grades.—There is a distinct need in the social-studies program for reading material which combines a high degree of interest with useful information and yet does not meet the demands made on textbooks for carefully selected materials of a more inclusive nature. Miss Hartman's new book¹ satisfies this need for the course in American history and is adapted to the abilities of pupils from the sixth to the eighth grades.

The book has a large story appeal. The selection of content has been weighted heavily on the side of interest, unusual emphasis being given to social life. The content does not draw on spectacular military events to maintain interest. The greatest value of the narrative to the pupil lies in its presentation of a vivid general concept of the developmental sweep of American history that will help him organize his scattered information and motivate more extensive reading.

The illustrations rank close to the fine narrative in making the book valuable. The pictures are usually from contemporary or near-contemporary sources, and they are reproduced on a sufficiently large scale to leave a vivid impression.

With respect to chronological emphasis, the book gives much more attention to the early periods of discovery, exploration, and colonization than does the usual school course. Less than 50 of the 336 pages deal with American history since the period of reconstruction. This fact, however, does not detract from the story-like quality which is the narrative's chief claim to distinction. Only the unusual price keeps the book from being classed as a judicious selection for classroom libraries.

ELMER ELLIS

UNIVERSITY OF MISSOURI

A summary of student personnel practices in teachers' colleges.—At a time when increasing attention is being directed to the individual student in higher education, it is valuable to view in perspective the various provisions made for administering student-personnel activities. In this connection a study by Town-

¹ Gertrude Hartman, *These United States and How They Came To Be*. New York: Macmillan Co., 1932. Pp vi+336 \$5.00.

send' serves a very useful purpose. The aim of this investigation was fourfold, namely, to determine the basic policies on which a personnel program may be planned, to develop and validate those procedures which are essential in the efficient administration of such policies, to determine to what extent the procedures are followed in teachers' colleges, and to define the needed changes and problems for further study.

The methods employed in the various phases of the study may be reviewed briefly. First, in order that the basic policies in personnel service to students might be determined, a thoroughgoing survey was made of the literature of personnel administration both in higher institutions and in industry. Second, in the effort to determine the specific administrative practices essential in carrying out these policies, the literature of the field was read extensively and tabulations were made. Third, in order that the relative effectiveness of these techniques might be discovered, outstanding authorities in the field of university and personnel administration were asked to evaluate the various procedures. From a consensus of these opinions the relative effectiveness of each procedure was determined. Fourth, in an effort to determine the extent to which desirable procedures are followed in teachers' colleges, check lists were presented to the presidents of institutions. It is obvious from the foregoing statements that the data secured are limited to current policies and practices and to personal judgments concerning the adequacy of current procedures in student-personnel service.

The body of the report is presented in four chapters. Chapter ii summarizes the policies on which personnel service depends. These are classified helpfully under the following headings: selection, orientation, health, proper standards of living, counsel and advice, extra-curriculum activities, placement, follow-up, personnel records, personnel research, staffing, and organization. Chapter iii is concerned with the technique by which to evaluate the methods used in carrying out such policies. The check-list procedure was adopted for this purpose and was submitted to a so-called "jury of experts." Steps were taken to determine both the validity and the reliability of the findings. Chapter iv presents the results of the survey of practice in 105 teachers' colleges with respect to student-personnel services. Chapter v summarizes the findings and presents recommendations. Chief among the latter is the need for further investigations to validate or modify current policies and practices.

As a summary of present practice, the report is significant and illuminating. It may be used to distinct advantage by personnel officers and by students of college problems. The recommendations point out the fact that the procedures adopted must be adapted to the needs of teachers' colleges in such matters as selecting students and developing desirable personal characteristics. To a very

¹ Marion Ernest Townsend, *The Administration of Student Personnel Services in Teacher-training Institutions of the United States*. Teachers College Contributions to Education, No 536. New York: Teachers College, Columbia University, 1932. Pp. x+116 \$1 50.

large extent, the personnel services discussed are more or less highly specialized. Neither in the summary of current practice nor in the recommendations is the function of instruction in promoting desirable personal characteristics emphasized to any significant extent.

WILLIAM S. GRAY

The talking motion picture in education.—The first book to deal with the use in education of the talking motion picture which has come to the writer's attention is a new book¹ by Devereux. For this reason, as well as for several others, the book will be welcomed. It is written by an executive of one of the leading producers of educational talking pictures and therefore carries with it the authority which comes from first-hand and inside experience. It is a comprehensive treatment of the subject, reviewing, as it does, the method of producing talking pictures, the available research into the educational value of this instrument of education, the use of talking pictures at various levels of the school and college, and the material equipment for the use of talking pictures. It is also of special interest because it reflects, in part, the experience of the author in supervising the production of the widely publicized series of talking pictures which are to be used in the instruction in the comprehensive courses of the College at the University of Chicago and by instructors in other institutions who may wish to take advantage of the formulation of the subjects represented in these films.

The book is written in the positive rather than the critical manner. The evidence showing the value of talking pictures and the many ways in which they may be used are presented in a clear and straightforward exposition. The possible limitations in their use and the place that they have in a unified system of instruction do not fall within the scope of the author's treatment. He has limited himself to a discussion of the value and the use of talking pictures in themselves and does not discuss in detail their relative value in comparison with other types of visual presentation or the distinctive ways in which talking pictures and other types of visual aids may be used in combination with each other. However, the book gives a complete and satisfactory account of the value and use of talking pictures themselves.

The description of the organization and procedure which are set up for the production of an educational talking picture gives the reader a vivid realization of the complexity of the task. Even without the employment of concurrent educational research to serve as a guide in the detailed production—a procedure so expensive that nobody has yet undertaken it—the production is elaborate enough. It involves careful planning by the co-operating educational and technical staffs and, in addition, constant collaboration and checking during the production. The absence of this joint action accounts for the weakness of much of the available visual material.

¹ Frederick L. Devereux, *The Talking Motion Picture*. Chicago: University of Chicago Press, 1933.

The research which has been made thus far agrees with similar studies of silent educational motion pictures in showing their marked effectiveness in instruction in appropriate subjects. The direct comparison between silent and talking pictures has not yet been made on a large scale, so that their relative values and functions remain at present a matter of analysis and conjecture.

The detailed description of the use of talking pictures at the various levels of school and college and the equipment necessary for their use will prove to be an exceedingly valuable part of the book. The newness of the field and the especial competence of the author in the technical problems combine to give unique value to his discussion of these problems. The book as a whole should have large influence in promoting and guiding the use of talking pictures in education.

FRANK N. FREEMAN

Character and physical education.—Those who think that physical education is merely muscle or general body building will see little or no merit in a recent book¹ dealing with character and physical education. Those who see and understand that physical education is a way of living will welcome material of this sort. There is much in this book to merit the attention of discerning teachers in physical education. The book will also be of interest to educators in other fields of activity because it indicates the general relation of character outcomes and physical-education activities.

The materials presented are the results of a general conference of specialists interested in the problems of character education. The special keynote was how various principles and criteria for judging character-building procedures apply in physical education. The first three chapters deal with the definition and basis of character. In chapter iv the relation of recreation and moral training is presented. In chapter v criteria are set up for the evaluation of physical-education activities for character outcomes. Eight major criteria are presented: education as a doing phenomenon, the degree and nature of interest, the degree of attention, satisfaction, the degree of developments which accrue, integration, opportunities for leadership, and self-direction. An attempt is made to have various leaders apply these criteria to specific activities in physical education, but at this point the chief weakness of the book exists. Chapter vi deals with principles of methodology in physical education and presents the report of a special committee. Examples of methodology in physical education are presented in chapter vii but add little to the more basic considerations. Professor Nash, in chapter viii, presents some valuable considerations from the standpoint of administration.

In general, the material presented in the various papers impresses one with the authors' deep interest in the subject but produces little evidence to show that

¹ *Character Education through Physical Education*. Interpretations of Physical Education, Vol. III. Edited by Jay B. Nash. New York: A. S. Barnes & Co., Inc., 1932. Pp. x+316. \$2.00.

the desired outcomes of the teaching have been attained or how they may be attained. The book gives little detailed help to the physical-education teacher, but, in general, it furnishes him much stimulation and food for thought if applied to his particular program.

L. B. SHARP

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

- ARNSPAGER, VARNEY C. *Measuring the Effectiveness of Sound Pictures as Teaching Aids*. Teachers College Contributions to Education, No. 565. New York: Teachers College, Columbia University, 1933. Pp. viii+156. \$2.00.
- BITTNER, WALTON S., and MALLORY, HERVEY F. *University Teaching by Mail: A Survey of Correspondence Instruction Conducted by American Universities*. New York: Macmillan Co., 1933. Pp. xvi+356. \$2.50.
- BRADLEY, A. DAY. *The Geometry of Repeating Design and Geometry of Design for High Schools*. Teachers College Contributions to Education, No. 549. New York: Teachers College, Columbia University, 1933. Pp. vi+132. \$1.50.
- DIENST, CHARLES FRANKLIN. *The Administration of Endowments: With Special Reference to the Public Schools and Institutional Trusts of Idaho*. Teachers College Contributions to Education, No. 560. New York: Teachers College, Columbia University, 1933. Pp. xii+132. \$1.50.
- EDWARDS, NEWTON. *The Courts and the Public Schools*. Chicago: University of Chicago Press, 1933. Pp. xvi+582. \$5.00.
- GALE, ANN VAN NICE. *Children's Preferences for Colors, Color Combinations and Color Arrangements*. Chicago: University of Chicago Press, 1933. Pp. xvi+60. \$1.25.
- KUHLMANN, WILLIAM D. *Teacher Absence and Leave Regulations: Some Basic Facts and Principles Related to Temporary Absence of Teachers, for Use in Formulating Valid Absence Regulations*. Teachers College Contributions to Education, No. 564. New York: Teachers College, Columbia University, 1933. Pp. viii+76. \$1.50.
- LANDIS, BENSON Y., and WILLARD, JOHN D. *Rural Adult Education*. New York: Macmillan Co., 1933. Pp. xiv+230. \$1.75.
- LEE, DORRIS MAY. *The Importance of Reading for Achieving in Grades Four, Five, and Six*. Teachers College Contributions to Education, No. 556. New York: Teachers College, Columbia University, 1933. Pp. viii+64. \$1.50.
- PANNELL, HENRY CLIFTON. *The Preparation and Work of Alabama High School Teachers*. Teachers College Contributions to Education, No. 551. New York: Teachers College, Columbia University, 1933. Pp. vi+118. \$1.50.

- REEVES, FLOYD W., HENRY, NELSON B., and RUSSELL, JOHN DALE. *Class Size and University Costs*. The University of Chicago Survey, Vol. XI. Chicago: University of Chicago Press, 1933. Pp. xxi+236.
- REEVES, FLOYD W., PEIK, W. E., and RUSSELL, JOHN DALE. *Instructional Problems in the University*. The University of Chicago Survey, Vol. IV. Chicago: University of Chicago Press, 1933. Pp. xxii+246.
- TODD, JESSIE, and GALE, ANN VAN NICE. *Enjoyment and Use of Art in the Elementary School*. Chicago: University of Chicago Press, 1933. Pp. x+134. \$1.50.
- WILSON, GRACE H. *The Religious and Educational Philosophy of the Young Women's Christian Association*. Teachers College Contributions to Education, No. 554. New York: Teachers College, Columbia University, 1933. Pp. 156. \$2.00.
- WRIGHTSTONE, J. WAYNE. *Stimulation of Educational Undertakings: A Study of School Support in New York Cities and Villages under Earmarked and Non-earmarked State Subsidy Plans*. Teachers College Contributions to Education, No. 562. New York: Teachers College, Columbia University, 1933. Pp. viii+76. \$1.50.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL

TEACHERS AND PUPILS

- ANDRESS, J. MACE, and GOLDBERGER, I. H. *Broadcasting Health*. Boston: Ginn & Co., 1933. Pp. x+402. \$0.80.
- BRIGHAM, ALBERT PERRY, and MCFARLANE, CHARLES T. *Our Continental Neighbors Our World and Ourselves*. Chicago: American Book Co., 1933. Pp. x+390. \$1.52.
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